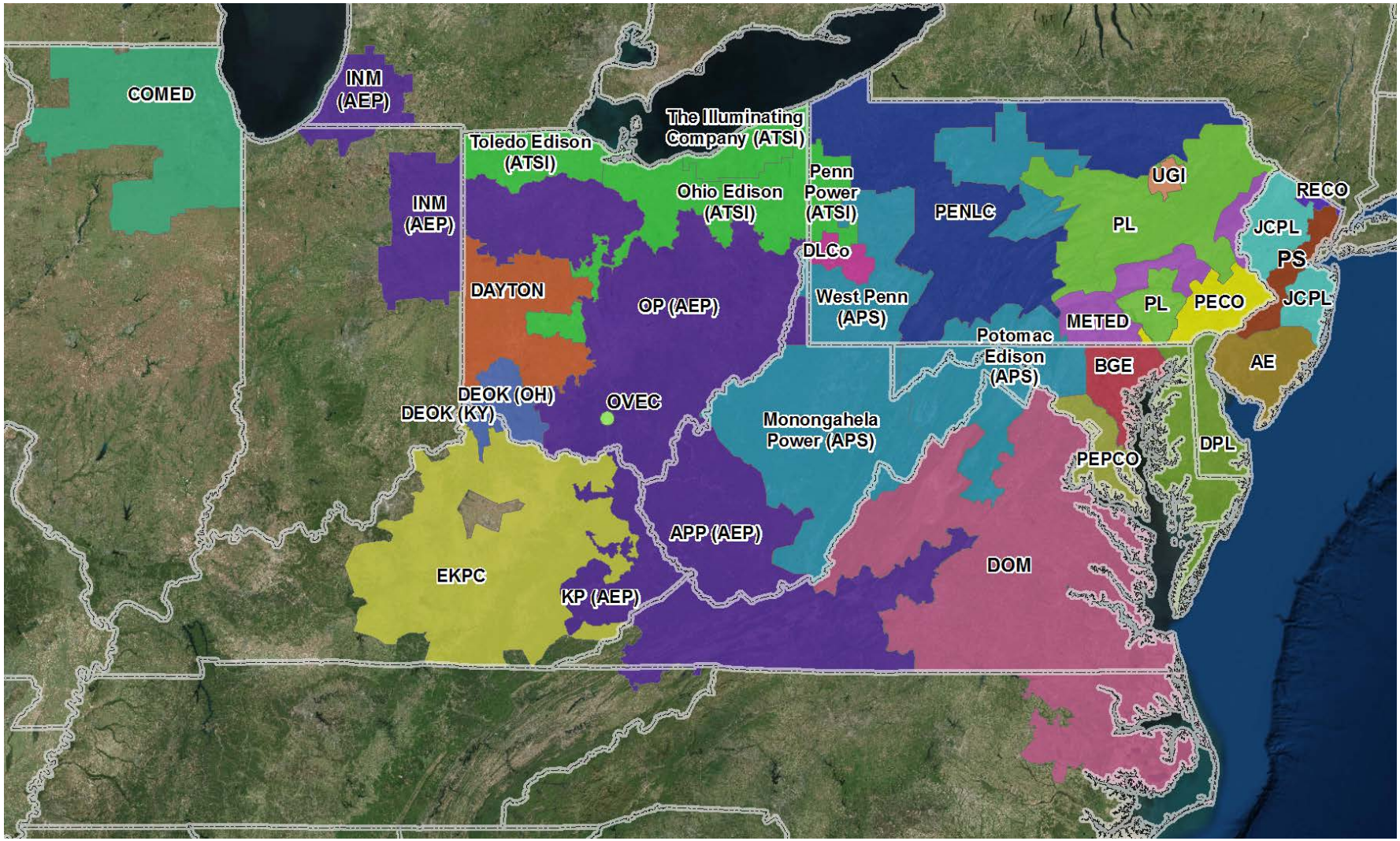
PJM Load Forecast Report

March 2019 – RPM Update



Prepared by PJM Resource Adequacy Planning Department

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TERMS AND ABBREVIATIONS USED IN THIS REPORT

AE	Atlantic Electric zone (part of Pepco Holdings, Inc)
AEP	American Electric Power zone (incorporated 10/1/2004)
APP	Appalachian Power, sub-zone of AEP
APS	Allegheny Power zone (incorporated 4/1/2002)
ATSI	American Transmission Systems, Inc. zone (incorporated 6/1/2011)
Base Load	Average peak load on non-holiday weekdays with no heating or cooling load. Base load is insensitive to weather.
BGE	Baltimore Gas & Electric zone
CEI	Cleveland Electric Illuminating, sub-zone of ATSI
COMED	Commonwealth Edison zone (incorporated 5/1/2004)
Contractually Interruptible	Load Management from customers responding to direction from a control center
Cooling Load	The weather-sensitive portion of summer peak load
CSP	Columbus Southern Power, sub-zone of AEP
Direct Control	Load Management achieved directly by a signal from a control center
DAY	Dayton Power & Light zone (incorporated 10/1/2004)
DEOK	Duke Energy Ohio/Kentucky zone (incorporated 1/1/2012)
DLCO	Duquesne Lighting Company zone (incorporated 1/1/2005)
DOM	Dominion Virginia Power zone (incorporated 5/1/2005)
DPL	Delmarva Power & Light zone (part of Pepco Holdings, Inc)
EKPC	East Kentucky Power Cooperative zone (incorporated 6/1/2013)
FE-East	The combination of FirstEnergy's Jersey Central Power & Light, Metropolitan Edison, and Pennsylvania Electric zones (formerly GPU)
Heating Load	The weather-sensitive portion of winter peak load
INM	Indiana Michigan Power, sub-zone of AEP
JCPL	Jersey Central Power & Light zone
KP	Kentucky Power, sub-zone of AEP

METED	Metropolitan Edison zone
MP	Monongahela Power, sub-zone of APS
NERC	North American Electric Reliability Corporation
Net Energy	Net Energy for Load, measured as net generation of main generating units plus energy receipts minus energy deliveries
OEP	Ohio Edison, sub-zone of ATSI
OP	Ohio Power, sub-zone of AEP
OVEC	Ohio Valley Electric Corporation zone (incorporated 12/1/2018)
PECO	PECO Energy zone
PED	Potomac Edison, sub-zone of APS
PEPCO	Potomac Electric Power zone (part of Pepco Holdings, Inc)
PL	PPL Electric Utilities, sub-zone of PLGroup
PLGroup/PLGRP	Pennsylvania Power & Light zone
PENLC	Pennsylvania Electric zone
PP	Pennsylvania Power, sub-zone of ATSI
PRD	Price Responsive Demand
PS	Public Service Electric & Gas zone
RECO	Rockland Electric (East) zone (incorporated 3/1/2002)
TOL	Toledo Edison, sub-zone of ATSI
UGI	UGI Utilities, sub-zone of PLGroup
Unrestricted Peak	Peak load prior to any reduction for load management or voltage reduction.
WP	West Penn Power, sub-zone of APS
Zone	Areas within the PJM Control Area, as defined in the PJM Reliability Assurance Agreement

2019 PJM LOAD FORECAST REPORT – RPM Update

EXECUTIVE SUMMARY

- This report presents an independent load forecast prepared by PJM staff.

- **This updated forecast will be used only for RPM auctions applicable to the 2022/2023 Delivery Year, subject to approval of PJM's filing in FERC Docket No. ER19-511-001**. The January 2019 Load Forecast will continue to be used for all other purposes.

- The only change from the January forecast are related to the inclusion of approved Peak Shaving Load Adjustments for summer-only demand response programs. An adjustment (as detailed in Table B-7a) was made to the BGE zone beginning in year 2022, for programs with load-reducing capability of 390MW.

- Table B-10 contains the summer coincident peak loads to be used in the upcoming Base Residual Auction to be run in August 2019.

NOTE:
Unless noted otherwise, all peak and energy values are non-coincident, unrestricted peaks, which represent the peak load or net energy after reductions for distributed solar generation and prior to reductions for load management impacts.
All compound growth rates are calculated from the first year of the forecast.

Summary Table

SUMMER PEAK LOAD (MW) AND GROWTH RATES FOR
PJM RTO AND SELECTED GEOGRAPHIC REGIONS

	METERED 2018	UNRESTRICTED 2018	THIS YEAR 2019	RPM YEAR 2022	RTEP YEAR 2024
PJM RTO	150,527	150,562	151,358	152,025	153,208
Demand Resources			-8,154	-8,832	-8,898
PJM RTO - Restricted			143,204	143,193	144,310
PJM MID-ATLANTIC	56,721	56,835	56,486	55,982	56,000
Demand Resources			-3,034	-2,977	-2,985
MID-ATL - Restricted			53,452	53,005	53,015
EASTERN MID-ATLANTIC	31,314	31,314	30,950	30,759	30,791
Demand Resources			-1,068	-1,208	-1,211
EMAAC - Restricted			29,882	29,551	29,580
SOUTHERN MID-ATLANTIC	12,941	12,941	13,071	12,683	12,661
Demand Resources			-1,039	-599	-598
SWMAAC - Restricted			12,032	12,084	12,063

Summary of the September 2018 U.S. Macro Forecast

BY ADAM OZIMEK

The stock market's recent stumble notwithstanding, the U.S. economy is expanding strongly and near-term growth prospects remain good. Recession risks through the end of next year remain low. The proximate causes of the sharp pull-back in stocks are high valuations, particularly for technology stocks, and rising interest rates. The ratio of the Wilshire 5000—the value of all publicly traded stocks—to corporate profits was as high as it has been since the Y2K internet bubble (see Chart 1). This economy-wide price-earnings multiple probably overstates the overvaluation since interest rates and corporate tax rates are a lot lower now, but valuations are stretched.

Investors are also finally adjusting up their expectations of future interest rate hikes by the Federal Reserve to be more consistent with the Fed's own rate forecast. Given that unemployment has never been as low in peace time and is well below nearly everyone's estimate of full employment, it seems that investors' previously sanguine interest rate outlook was misplaced.

The 2020 Recession

With consumers and businesses feeling so good, it may come as a surprise that many economists are fretting. Not about this year or next, but they worry that the economy's currently strong growth is not sustainable—that once the fiscal stimulus fades, which will happen early in the next decade under current law, growth will fade with it. With the Federal Reserve expected to steadily increase interest rates between now and then, there is even a good chance that the economy will suffer a recession in 2020.

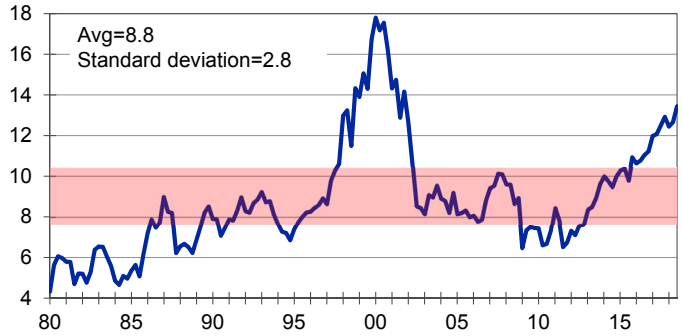
Given economists' long-standing reticence to predict recessions, it is noteworthy that many are predicting one now, particularly when the economy is growing so strongly and consumers and businesses are so upbeat. Perhaps it reflects their discomfort with the fiscal stimulus. According to the textbooks, a stimulus when the economy is in recession is good policy, but a stimulus when the economy is at full employment is a serious policy error that likely won't end well. Or perhaps it is a reaction to their grave mistake of not anticipating the Great Recession. Economists aren't going to make that error again; they reason it is much better to mistakenly predict a recession that doesn't happen, than to fail to predict one that does.

Trump's trade war

Investors have more to worry about than valuations and interest rates. So, though the recent decline in stock prices is not alarming, a move substantially higher is not likely any time soon. The most immediate concern for investors is the escalating trade war. The recent U.S. agreement with Mexico and Canada, which made a few tweaks to the previous NAFTA, did nothing to assuage those worries as the U.S. upped the ante in the trade war with China. An additional $200 billion in Chinese imports to the U.S. are now subject to a 10% higher tariff on top of $50 billion in Chinese imports already subject to higher tariffs. Half of all Chinese imports into the U.S. now face higher tariffs, and President Trump has threatened to impose the same on all Chinese goods coming to the U.S.

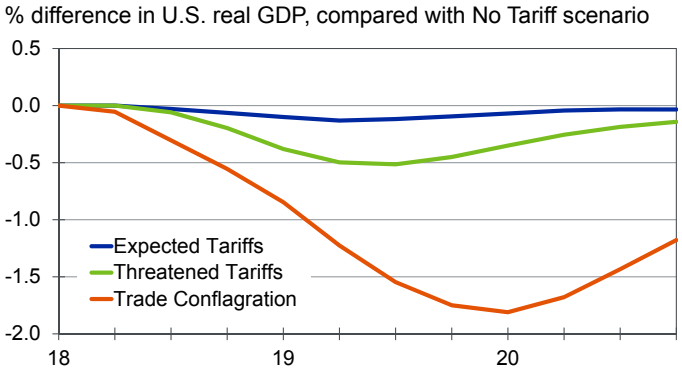
Chart 1: Stock Valuations Are Stretched

Ratio of Wilshire 5000 to corporate profits



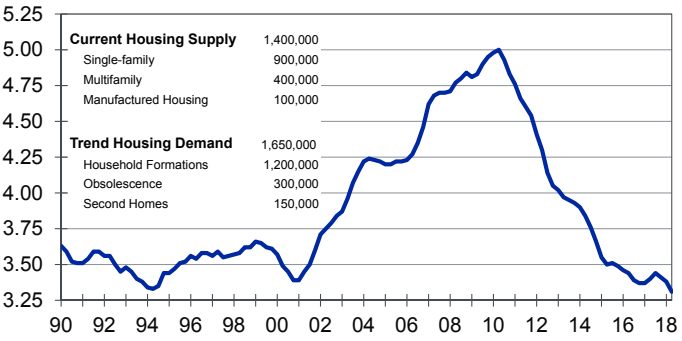
Sources: Wilshire, BEA, Moody's Analytics

Chart 2: Trade War Poses Serious Threat



Source: Moody's Analytics

Chart 3: A Housing Shortage



Sources: Census Bureau, Moody's Analytics

The Chinese have responded to the U.S. actions by raising tariffs on an increasing number of U.S. exports to China, allowing the yuan to fall almost 6% in value against the dollar, and implementing various so-called qualitative measures that increase the cost of doing business for American companies operating in China.

So far, the economic damage has been limited, since both nations have taken measures to stem the fallout. The Trump administration has promised to spend $13 billion to help U.S. farmers hurt by the war, and the Chinese have cut reserve requirements for their banks and are gearing up to increase infrastructure spending and other fiscal stimulus. Financial markets have taken things largely in stride, believing the U.S. president will declare victory and end the war before it does any substantial economic harm—much as he did with Mexico and Canada, and with the EU this past summer.

This is our assumption as well. We expect President Trump and Chinese President Xi Jinping to figure out a way to end the war by next summer. If so, the battling will shave about a tenth of a percentage point from U.S. real GDP growth and approximately half a percentage point from Chinese growth this year and next. Not great, but no big deal.

However, the risks to this sanguine view are consequential. Finding a face-saving way out becomes more difficult as the brinkmanship increases. A full-blown trade war between the two nations—additional 25% tariffs on all U.S.-China trade and heightened qualitative measures by the Chinese—will cause the U.S. economy to stall out later next year and push China into recession (see Chart 2). Stock investors will not exhale and push prices significantly higher, at least not for long, until there is a truce in the trade war.

The business cycle

The business cycle has entered its boom phase, a period that typically comes closer to a cycle's end, just prior to a recession. It is characterized by robust economic growth, tightening labor and product markets, intensifying wage and price pressures, monetary tightening, and higher interest rates.

Growth remains about as strong as it has been since the cycle began more than nine years ago, juiced up by massive deficit-financed tax cuts for individuals and businesses and increases in government spending. Real GDP is on track to expand 3% this year, substantially more than the economy's estimated 2% potential growth rate. Employment should increase by nearly 2.5 million jobs.

Unemployment appears set to ultimately fall into the low threes, well below our 4.5% estimate of the full-employment unemployment rate. Capacity utilization rates are increasing, and the percentage of the housing stock that is vacant is as low as it has been since the early 1980s despite overbuilding in the high end of the apartment market (see Chart 3). Hotel occupancy rates are as high as they have been since prior to the recession, and airline load factors are hovering near record highs.

Pressures building

Contrary to conventional wisdom, wage growth is picking up on cue. As measured by the employment cost index, the most accurate of the wage statistics, wages for private sector workers are up 3% from a year ago. This is the strongest wage growth since the recession hit, as it should be in an economy operating beyond full employment.

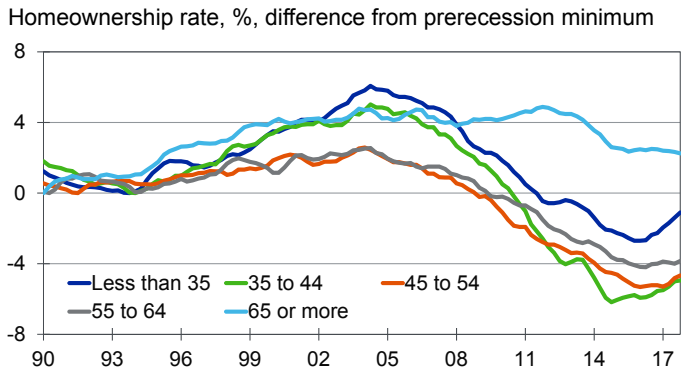
As unemployment heads lower, wage growth will accelerate further, outstripping productivity gains, squeezing businesses' profit margins, and pressuring businesses to raise prices more quickly. Indeed, core consumer price inflation is now as strong as it has been in almost a decade.

The Federal Reserve recognizes it needs to steadily normalize short-term rates. This means raising the federal funds rate from its current level near 2% to its equilibrium rate, which we estimate to be near 3.5%.

Housing

U.S. house price appreciation slipped in the latest reports, extending a recent trend of slowing year-over-year growth rates. The sharp gain in mortgage rates thus far in 2018 continues to weigh on residential sales and prices. The 30-year fixed mortgage rate was 5.1% as of late October, up a little more than 100 basis points from its early-September 2017 level. Mortgage rates remain near their highest in seven years, and their recent rise has caused many potential homebuyers to wait for a pullback. Slackening demand leads to slower price growth.

Chart 4: Homeownership Up for Young



Sources: Census Bureau, Moody's Analytics

New-home sales have had their worst two months since the 2006-2008 construction correction. The decline can be traced to the fourfold effect of rising mortgage rates, reduced tax deductibility, consumer confidence leveling off this year after six years of steady increase, and the effects of Hurricane Florence in North and South Carolina. Hurricane effects and declining consumer confidence will be transitory, but policy interventions by the Fed and Congress will persist. Competing macroeconomic forces produce market uncertainty and leave cautious builders unable to deliver sustained relief for the desperate homebuyers.

The good news is that the next phase of the housing recovery will extend homeownership to middle-aged age cohorts that were most impaired by the housing crash 10 years ago. This recovery has the potential to be robust because these cohorts comprise the majority of American households, and their wage level is 14% higher than the U.S. average. If homeownership rates return to the minimum levels reported by these groups in the 15 years prior to the Great Recession, more than two million additional homeowners will rejoin the housing market (see Chart 4).

However, this recovery may be blunted by memories of the housing crash. It is still impossible to discern if prime-age householders are lagging in homeownership because they are choosing to rent or because they are unable to qualify for home loans due to their weak credit history. The better explanation will be revealed over the next few quarters as the Great Recession's many foreclosures and bankruptcies are expunged from credit reports and these chastened former homeowners earn the chance to start over.

Forecast risks

Trade

Protectionist trade policies remain the primary downside risk to the forecast. Since taking office, President Trump has shifted the U.S. from a principal champion of free trade to an outspoken critic. Early steps included withdrawing from the Trans-Pacific Partnership and renegotiating NAFTA before transitioning to protective tariffs. Although initially a bit rocky, the U.S. has made progress renegotiating trade deals with its allies. However, the same cannot be said about the escalating trade tensions between the U.S. and China.

In the near term, higher tariffs and less trade will eventually begin to disrupt global supply chains, reducing economic growth and raising consumer and producer prices. Longer term, an extended reduction in trade will lower productivity, reducing the global economy's long-run potential.

Geopolitical tensions

Geopolitical tensions outside the U.S. transmitted through international trade, consumer sentiment and financial markets pose a threat to the U.S. economy. Years of subpar growth and the influx of thousands of refugees have strained many European countries, increasing the allure of populist and Eurosceptic parties. The rise of populism poses an existential threat to the EU, threatening to shatter the decades-long socioeconomic cooperation and peace among EU members.

In May, the U.S. formally withdrew from a seven-nation agreement aimed at restricting Iran's nuclear program and unilaterally reinstituted sanctions. The sanctions primarily target Iran's ability to sell oil in the global market both directly and indirectly. The worst case is that oil sanctions further destabilize the region, possibly even prompting Iran to restart its nuclear program.

Emerging markets

Rising interest rates and a strengthening U.S. dollar are putting pressure on several emerging market economies. EM countries with political issues and those with large current account deficits financed by U.S. dollar-denominated debt have been the hardest-hit. In Argentina and Turkey, large capital outflows have caused a rapid currency depreciation vis-à-vis the U.S. dollar. A strong U.S. economy and rising interest rates will likely continue to put pressure on EM capital flows from weaker EM countries with the risk that contagion could spread to other developing countries. So far, the global economy and financial system have been insulated, but an expanding EM crisis could cause global growth to come in weaker than expected.

China

A hard landing for China would deal a serious blow to the global economy. Recent economic data from China have been mixed, but the world's second largest economy has stabilized following turbulence in 2015 and 2016. Still, growth is expected to decelerate over the medium term as the Chinese government attempts to rebalance the economy toward more domestic consumption.

Uncertainty lies in China's ability to maintain sturdy growth and the impact of its interventions in the foreign exchange market on other global markets. China's expansion has been supported by a massive buildup in credit that poured into property investments and other projects. This has

led to overcapacity in some industries and a frothy housing market. Should property prices tumble, the resulting sharp drop in asset quality in China's banks could amplify stress in the domestic financial sector, with significant spillover effects on global financial markets. Chinese officials are working to tighten lending standards and rein in the shadow banking system. A policy misstep during this process would have significant impacts on both financial markets and the global economy.

Interest rates

Rising interest rates will pose a downside risk to the global economy. In the U.S., the Federal Reserve has been slow and deliberate in its decisions to raise interest rates, though an infusion of fiscal stimulus so late in the economic expansion could force officials to accelerate the pace of rate hikes, increasing the risk of a policy mistake.

Meanwhile, improving economic conditions are expected to prompt the European Central Bank to end its quantitative easing program this December.

Years of record low interest rates have had dramatic effects on the global financial system. Negative real returns on sovereign bonds have driven investors into riskier assets, including equities and high-yield bonds, in search of higher returns. The result has been rapid inflation of asset prices. As accommodative policies are gradually removed and global interest rates rise, the value of riskier assets could change dramatically, causing a costly re-balancing of financial portfolios.

Summary of the forecast for the PJM service territory

The PJM service territory covers all or parts of 13 states and the District of Columbia, accounting for more than 65 million people, or just over one-sixth of the U.S. population. The regional economies of the service territory include metro areas in the Midwest, South and Northeast and run the gamut from highly diversified, large economies such as Chicago, to small economies that depend heavily on one industry, such as Elkhart-Goshen IN.

Overall, education/healthcare remains the dominant industry in the service territory. Even compared with the U.S. overall, healthcare and education make up a larger share of the economy in the service territory. Over the longer term, increasing demand from the aging population within the service territory and out will support job gains because of its greater utilization of health services (see Chart 5). Healthcare is an export industry to some economies in the service territory. For example, both Pittsburgh and Philadelphia have large, specialized healthcare institutions that serve the regional population.

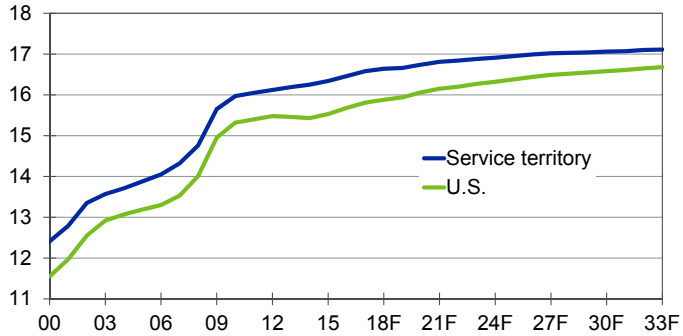
Professional and financial services will also play a significant part, helped by large metro areas such as Chicago, Newark NJ and Pittsburgh (see Chart 6). Job growth in professional and business services will be particularly strong, with growth expected to double that of overall employment. Finance will be a source of job gains as well, albeit at a more moderate pace. Finance has generally lagged overall employment in the aftermath of the Great Recession thanks to more stringent banking regulations and declining use of brick-and-mortar banking as customers increasingly switch to online banking. As a result, finance employment in the service territory is just now approaching its prerecession peak while overall employment is 5% above it.

On average, the concentration of manufacturing in the service territory is roughly in line with the national average. However, approximately 60% of the metro areas, mainly smaller old-line manufacturing localities in the Northeast and Midwest, rely more heavily on industrial production for growth. The highest concentration of manufacturing is in Elkhart-Goshen IN, where nearly half of all jobs are in manufacturing. In contrast, the lowest concentration is in California-Lexington Park MD, where less than 1% of employment is in manufacturing.

The factory sector's contribution to the labor market has improved significantly over the last year, with manufacturing payrolls growing at their fastest pace since the early 1990s and outpacing overall job growth by the biggest margin on record. Auto manu-

Chart 5: Outsized Role for Eds and Meds

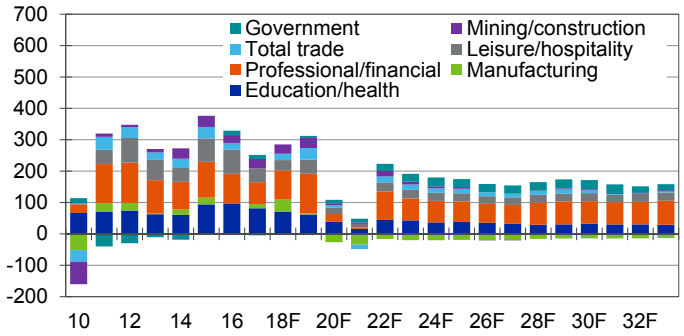
Education/healthcare share of employment, %



Sources: BLS, Moody's Analytics

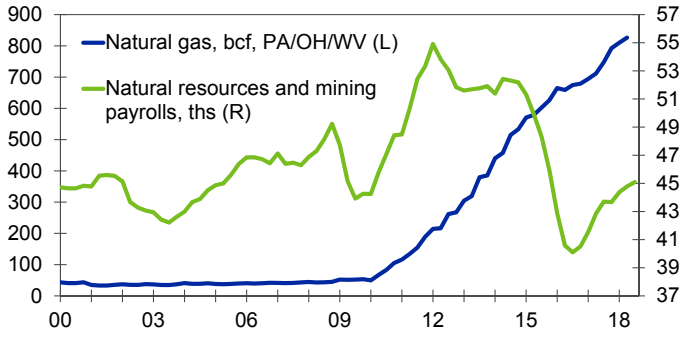
Chart 6: Professional/Financial Gains Lead

Employment, difference, ths



Sources: BLS, Moody's Analytics

Chart 7: Energy Production Outpaces Jobs



Sources: EIA, BLS, Moody's Analytics

facturers have been expanding at a healthy pace. Vehicle sales have remained robust despite the late-cycle expansion. Market strength can be attributed to the solid economy, which is holding strong despite equity market turbulence. Labor markets, one of the two main pillars for auto demand, continue to tighten, putting upward pressure on wage growth. Credit availability, the second main pillar, surprised in the third quarter, when bank officers reported loosening credit standards for the first time in two years. Although we do not expect the auto credit cycle to suddenly reverse into an expansionary stage, the Senior Loan Officer Survey results do suggest that lenders are responding positively to stabilizing auto portfolio delinquency rates after years of tightening.

However, the gains in manufacturing have not been enough to boost every manufacturing-dependent metro area. For example, manufacturing payrolls are falling in Youngstown OH, where primary metal manufacturers that produce tubular steel and extraction products for drillers in the nearby Marcellus Shale have been in a rut since the fall in energy prices in late 2014. Tariffs are not much help either. In Canton-Massillon OH, the higher cost of imported steel should work to primary metal producers' advantage, potentially helping Timken Steel thanks to higher demand and prices for domestically produced steel. However, production efficiencies limit the need for labor, and trade policy uncertainty will leave producers hesitant to commit to long-lived capital projects. The outlook for manufacturing payrolls is more negative than the recent performance, as automation and productivity gains weigh on labor demand. As a result, manufacturing employment will return to shrinking in the near term.

The natural resources and mining industry represents a small portion of the service territory's economy but has been a source of both job growth and job loss over the last decade. From 2006 to 2012, natural resources and mining added thousands of jobs to the service area, with strong gains in Pennsylvania, Ohio and West Virginia, thanks to the natural gas boom. However, a global drop in energy prices combined with a lack of infrastructure to ship natural gas out of the region translated to major layoffs and cutbacks on investment. The industry has been recovering from the energy bust in recent years, with almost half of the lost jobs regained (see Chart 7). However, like manufacturing, productivity will weigh on labor demand even as output expands. This will help the region remain a low-cost source of energy and output, but it means that the job gains will not be enough to bring payrolls back to 2012 levels.

While the public sector has a slightly smaller presence in the service territory than it does nationally, there is a greater concentration of federal government employment. This is largely because of the presence of the Washington-Arlington-Alexandria metro division, which contains the nation's capital and is home to one out of 10 federal government employees. With Republican leaders and the Trump administration focused more on tax cuts than spending increases, the outlook for federal government employment is for growth to lag that of the U.S. overall.

After years of cutbacks, an improving economy and growing revenues have finally begun to boost local government employment. However, it will be a slow path back to the previous employment peak. In addition, state fiscal positions in Illinois and Pennsylvania present a risk to the forecast for the service territory.

Recent Performance

The service territory economy continues to improve. The unemployment rate has fallen to 3.9% compared with 4.5% in 2017, and employment is growing at 1.3% year over year. The service territory's unemployment and job growth are just slightly underperforming compared with the U.S. overall.

While the estimate of GDP growth from the first quarter of 2017 to the first quarter of 2018 is lower than had been expected, it still shows modest real growth.

Total employment fell slightly short of the forecast as well. Nevertheless, despite falling below expectations, job growth has been strong enough to lower the unemployment rate and move the service territory closer to full employment.

In the third quarter of 2018, education/healthcare is tracking the forecast for year-to-year growth but in general has outperformed expectations over the last year. However, this faster growth in 2018 has not been enough to offset the lower payrolls resulting from downward revisions to 2017's education/healthcare job growth. As a result, total education/healthcare payrolls are below expectations from a year earlier. Overall, however, growth in healthcare remains robust and is helped by healthcare systems that are investing to meet the growing demand of an aging population. As a result, healthcare employment is expanding in 71% of the metro areas in the service territory.

Manufacturing employment is growing, with growth exceeding expectations. Manufacturing is an important driver in many of the territory's metro areas, particularly Midwest metal-producing and auto-related metro areas. Demand is strong for auto manufacturers as new-vehicle sales hold steady at a surprisingly robust level. However, manufacturing labor demand continues to face the major headwind of productivity gains and automation.

Finally, local government remains a source of weakness in many areas because of state and local fiscal problems. This is true

in particular in Pennsylvania. Increasing pension costs weigh on many municipalities and school districts and are keeping a lid on local government payrolls. For the service territory overall, local government employment is moving up slowly but remains well below the 2009 peak. In Illinois, in contrast, the long-struggling local government sector has begun to rebound.

Performance has varied significantly across the service territory. Pennsylvania, Ohio and Virginia are all tracking close to the service territory average. However, the healthy overall performance in these states masks significant variation. Many metro areas lack dynamic drivers, rely on one or two industries, and are mired in an industrial past. For example, in Williamsport PA, one out of every six workers is employed in natural resources/mining or manufacturing, compared with one out of 11 for the U.S. as a whole. Payrolls have been flat in Williamsport for the last two years, as the metro area has struggled to recover from the energy bust. Another example is Youngstown-Warren-Boardman, which is one of the weakest economies in Ohio. The nationwide factory jobs rebound bypassed Youngstown, and weakness in manufacturing has damaged other parts of the economy. Total payrolls have fallen by almost 4% since early 2015 to Great Recession levels. A contracting population has made it difficult for population-dependent industries such as education/healthcare, retail and leisure/hospitality to progress.

In contrast, other parts of Ohio and Pennsylvania are doing much better and feature a variety of assets. After lagging the nation for decades, Philadelphia is finally adding itself to the list of the Pennsylvania's strongest economies, with job growth powering ahead of the U.S. pace. The metro division is expanding quickly thanks to a downtown investment boom that reflects a broad set of growing industries. Cleveland is outpacing service territory thanks to gains in the factory sector, transportation/warehousing, and professional and technical services.

Overall, many manufacturing areas are doing better this year than in the recent past. Two of the fastest-growing metro areas in the service territory are Kankakee IL and Elkhart-Goshen IN, both of which have a high reliance on manufacturing. Elsewhere, growth is found in metro areas that are less reliant on their industrial past and instead draw on an educated population and strong private service growth, as well as healthy downtowns that attract tourism and in-migration. These generally are shared features of the more successful metro areas in the service territory.

After lagging for years, West Virginia has closed the gap significantly. West Virginia is no longer in recession status, and payrolls have been rebounding over the last year after a five-year decline, bolstered by gains in healthcare and transportation/warehousing. Natural resources and mining are helping as well. West Virginia has the second highest share of jobs in coal in the nation, and while mining is a fraction of its former size, industry employment is up 15% since bottoming in 2016. Robust global growth has bolstered the state's coal exports, which are the highest since 2012. Yet the strength of the recovery in West Virginia should not be overstated. Nonfarm employment remains on an upward trajectory, but year-over-year growth has leveled off and lags the rest of the South average by almost a full percentage point. Goods producers are holding back stronger job gains. West Virginia is the only state in the South region where factory payrolls are below their year-ago level. Construction and mining are holding their own, but factories have given back all of last year's rise in payrolls, which remain near their lowest point on record. Tepid net hiring has left the jobless rate stalled above 5%, the third highest in the U.S., for almost a year.

Near-term outlook and changes to the forecast

The 2018 baseline forecast for the region was generated in the context of the U.S. macro forecast. Changes to the near-term outlook for the PJM service territory are similar to changes in the U.S. macro forecast. Output disappointed in 2017, but it is expected that 2018 data will show a strong uptick in real GDP growth. This would be consistent with the improvement in payroll growth seen this year. Meanwhile, productivity growth remains lackluster. Overall, output growth has likely peaked in 2018, as job growth will slow as the economy increasingly reaches and then passes full employment.

Consistent with last year's forecast, the economy is still expected to have a volatile return to full employment. The Federal Reserve is expected to overshoot somewhat, as the unemployment rate falls below a rate that is consistent with a full-employment economy. In addition, immigration is expected to decrease amid restrictions pursued by the Trump administration. The net effect will that the unemployment rate will tick back up after bottoming out in the next two years.

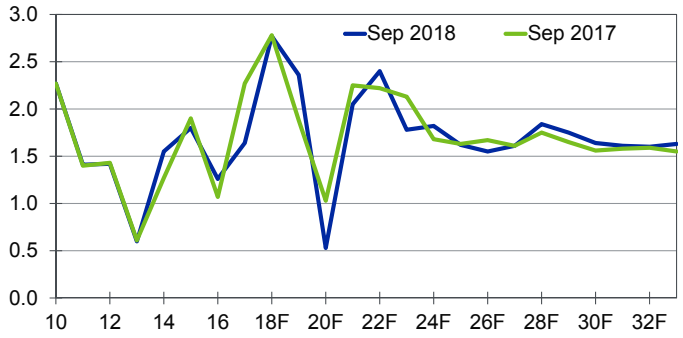
Retail is a sector that fell well short of the forecast over the past year. Pressure from online sales is weighing on brick-and-mortar retail establishments. While e-commerce has continued to steadily grow over the last two decades, long-standing pressures have increasingly come to a head for many retailers. Layoffs, bankruptcies and closings have affected more than a dozen large retailers, including Sears and Toys R Us, which filed for bankruptcy protection in 2018. While the weakness in retail is true across the U.S., it is more pronounced in the service territory, where the headwind of online sales is compounded by weak population growth. However, the forecast calls for a return to growth for retail payrolls as shuttered stores are eventually replaced by new retailers that can better compete with e-commerce.

Multifamily housing has remained strong and generally tracked the forecast, as households continue to rent. In contrast, while the single-family housing market has improved somewhat, the robust catch-up in single-family permitting that was expected has not yet materialized. Probably the strongest, though the least quantifiable, reason for the slower than expected recovery is still-low confidence in the long-term aftermath of the housing crisis, given the strong links between the housing and labor markets. Employment growth may be relatively strong, but wage growth remains below the level consistent with a full-employment economy.

The good news is that strong hiring and increased tightness, as measured by the unemployment rate and ratio of employment

Chart 8: Long-Run GDP Upgraded Slightly

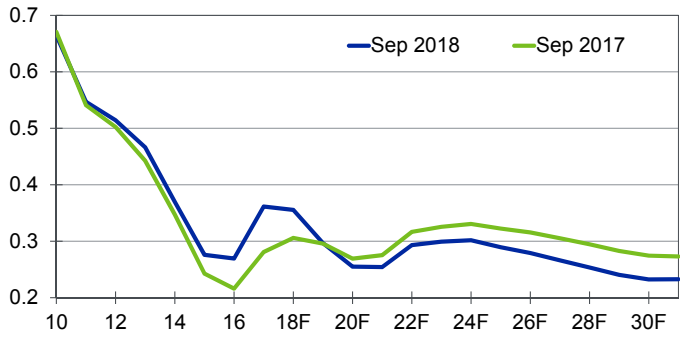
Real GDP growth in PJM service territory metro areas, % change



Sources: BEA, Moody's Analytics

Chart 9: Population Projections Lowered

Population forecast, % change yr ago



Sources: Census Bureau, Moody's Analytics

to working-age population, points to stronger wage income growth in coming years. The indirect effect will be to strengthen household spending, including home purchases. Wage growth will help households regain their willingness to invest in single-family housing, and as a result, the forecast for a single-family turnaround has only been pushed back.

Overall, the service territory economy will return to full employment in the near term, and the stronger metro areas in the service territory are there already. As a result, the data will likely show that GDP growth peaked in 2018, but that does not mean the economy is done growing. In particular, a recovery in the single-family housing market is around the corner. After the service area transitions to full employment, job growth will begin to slow to a pace that is more consistent with the long-run trajectory of the economy.

Long-term outlook

The September forecast for long-term GDP growth in metro areas in the PJM service territory has changed slightly compared with last year. Over the next few years, GDP be will be more volatile than previously expected, but in the long run will settle into a slightly faster growth path than previously expected (see Chart 8).

Average annual growth over the last 10 years of the forecast horizon—from 2024 to 2033—has been increased slightly, from 1.63% to 1.67%. As a result, the PJM service territory will underperform the U.S., which will have average annual real GDP growth over that same period of 1.95%.

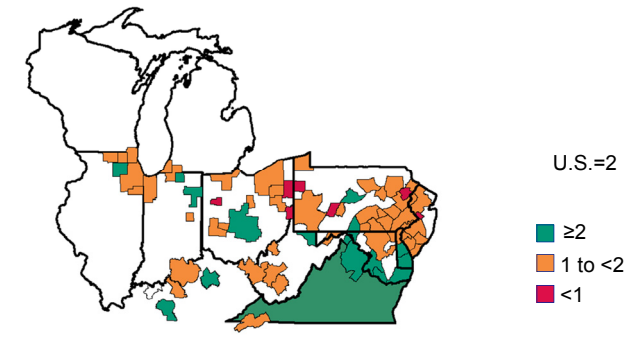
Compared with 2017, the outlook for long-term population growth has been lowered in the long run, largely because of nationwide factors (see Chart 9). Census data from 2017, the most recent available, revealed population growth in the service territory that was above the forecast. This has pushed up the population forecast, but only for 2018. The long-run forecast has been reduced because of changes in the U.S. macro outlook. For the U.S. overall, the birthrate remains stubbornly low and deaths are increasing as the country ages. This has led to a net reduction in the overall U.S. population forecast compared with last year, which has in turn reduced the long-run population forecast for the service territory.

Washington DC and Virginia will outperform the service territory and U.S. for GDP growth thanks to a highly educated labor force, productivity growth, and positive demographic trends. Other metro areas that will outperform the U.S. include Lancaster PA, Elgin IL, and Columbus OH (see Chart 10).

Metro areas in Ohio, West Virginia, and western and northern Pennsylvania will expand more slowly. Expansion in those areas will be more restrained as the region

Chart 10: Uneven GDP Growth

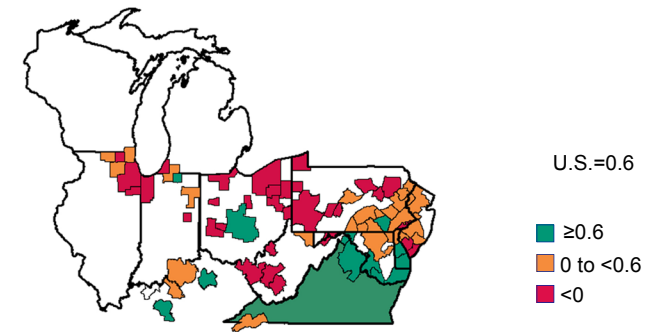
Avg real GDP growth from 2018 to 2033, %



Sources: Census Bureau, Moody's Analytics

Chart 11: Many Shrinking Metro Areas

Avg population growth from 2018 to 2033, %



Sources: Census Bureau, Moody's Analytics

transitions away from manufacturing and other blue-collar industries toward more service-oriented economies. With lower-value-added services accounting for a larger part of the regional economies, income gains are expected to be more restrained.

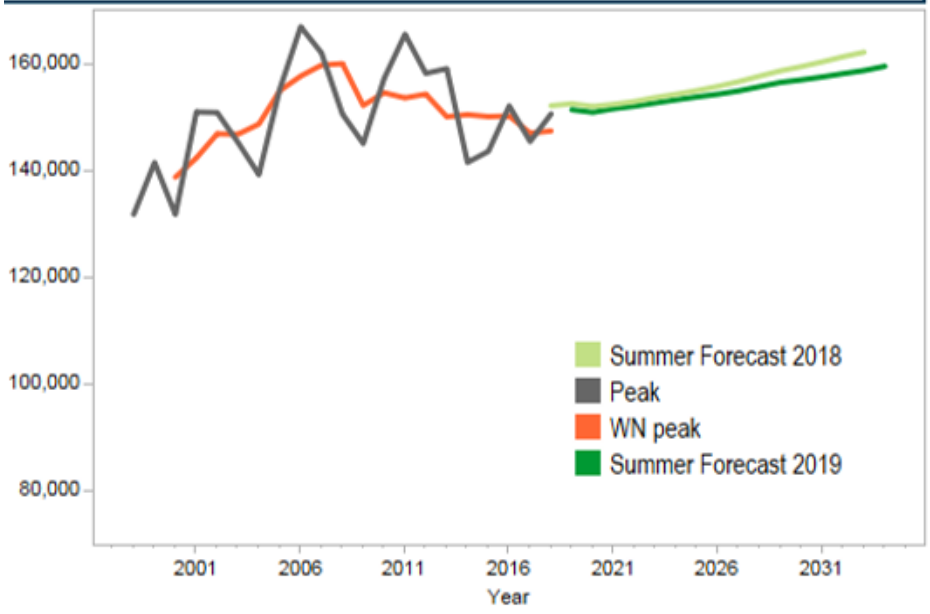
Weaker demographics will also undermine long-term growth for many metro areas, as workers and their families are expected to seek opportunities in stronger labor markets outside of the slow-growth metro areas in the Midwest and Northeast (see Chart 11). While the presence of institutions of higher education and high tech will help some cities such as Pittsburgh, even there the long-standing blue-collar industry headwinds will lead to below-average demographic performance.

Of the 10 areas with the weakest population growth, eight are in Ohio or Pennsylvania. These areas, along with 18 others, will post net declines in the population.

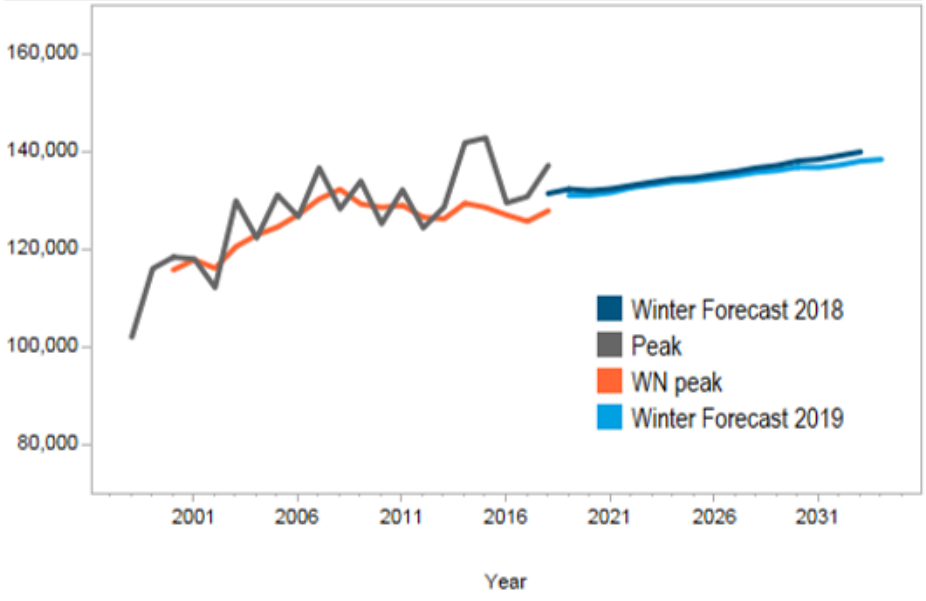
In Pennsylvania, the long-run decline of manufacturing is exacerbated by poor public sector finances, which will weigh on local government employment as well as taxpayers.

PJM RTO

Summer Non-Coincident Peak



Winter Non-Coincident Peak

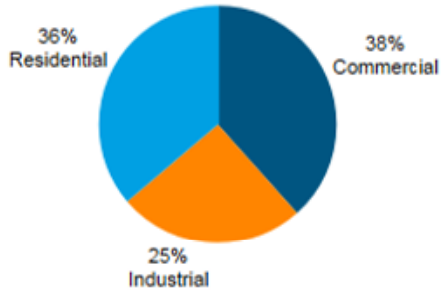


Weather - Annual Average 1993-2017

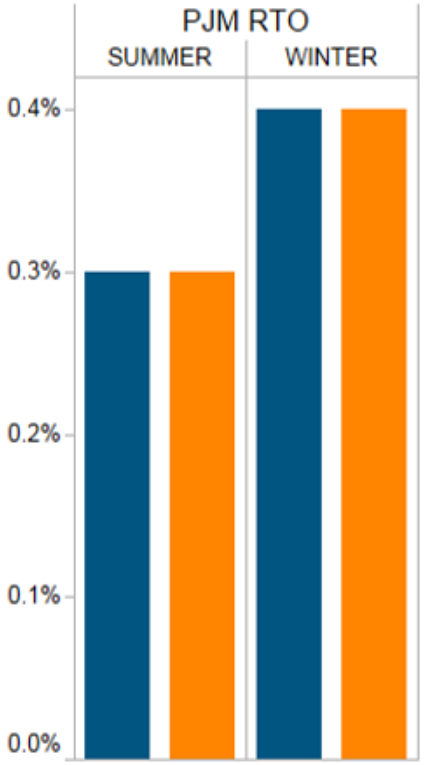
CDD	HDD	THI	WWP
1,051	*3,866*	*83*	*13*

CDD - Cooling Degree Days
HDD - Heating Degree Days
THI - Temperature-Humidity Index
WWP - Wind-Adjusted Temperature

RCI Makeup



Zonal 10/15 Year Load Growth



RROs

RFC & SERC

LDAs

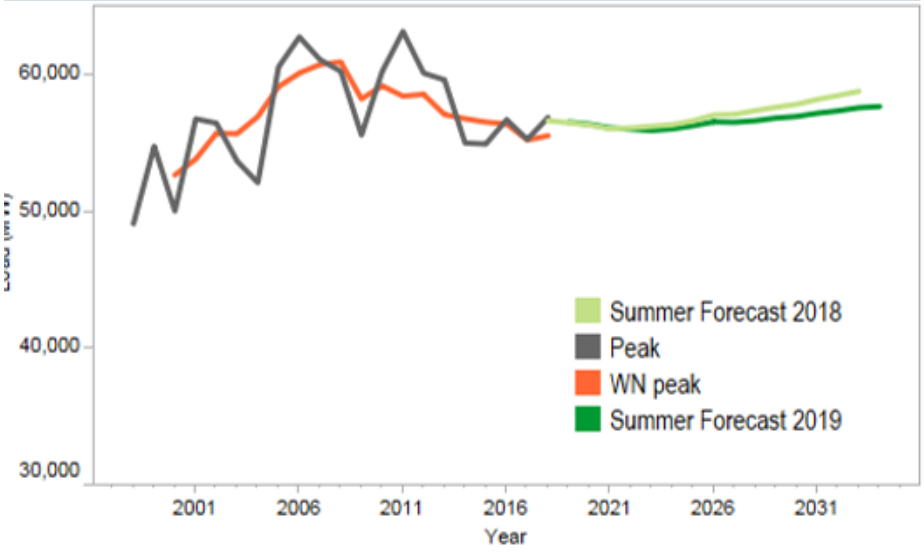
PJM Eastern MAC
PJM Southern MAC
PJM Central MAC
PJM Western MAC
PJM West

Zones

AE	DAYTON	JCPL	PEPCO
AEP	DEOK	METED	PL
APS	DLCO	OVEC	PS
ATSI	DOM	PECO	RECO
BGE	DPL	PENLC	UGI
COMED	EKPC		

PJM Mid-Atlantic (MAC)

Summer Non-Coincident Peak

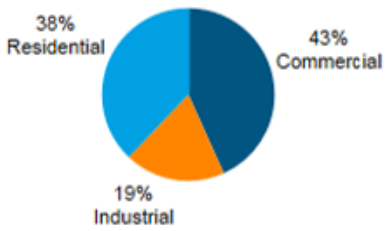


Weather - Annual Average 1993-2017

CDD	HDD	THI	WWP
1,166	3,642	84	13

CDD - Cooling Degree Days
HDD - Heating Degree Days
THI - Temperature-Humidity Index
WWP - Wind-Adjusted Temperature

RCI Makeup



RRO

RFC

*Zone boundaries are approximate and do not reflect divided zipcodes

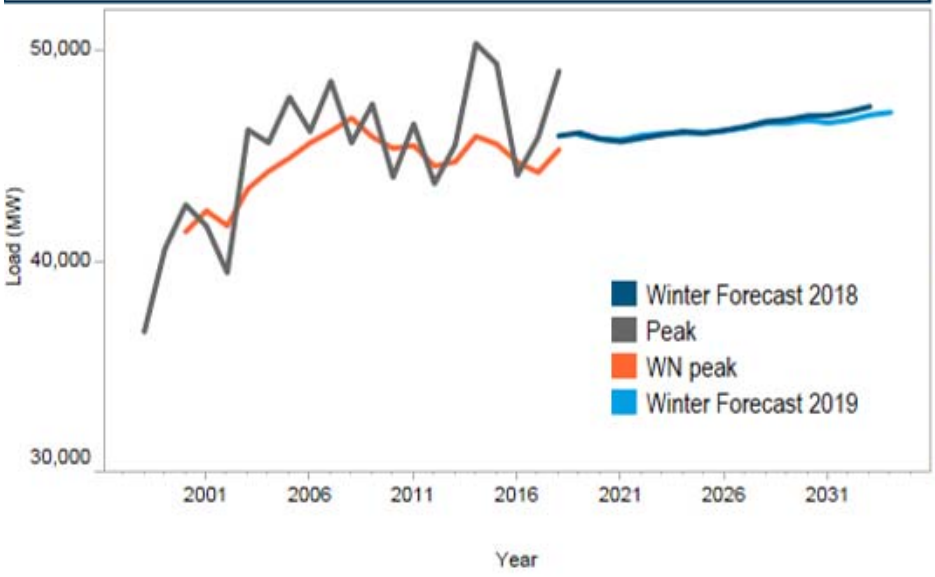
LDAs

EMAC CMAC
SMAC WMAC

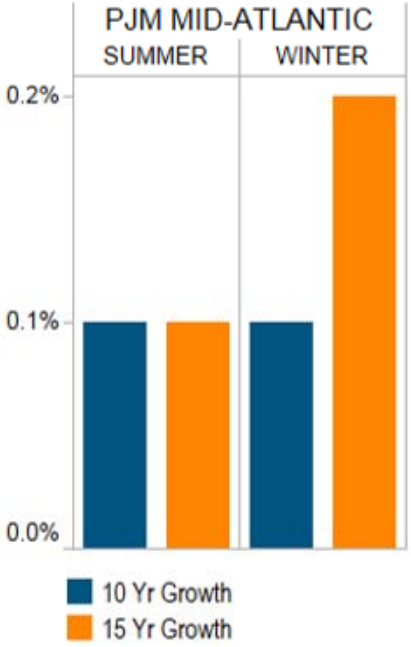
Zones

AE	JCPL	PENLC	PSEG
BGE	METED	PEPCO	RECO
DPL	PECO	PL	UGI

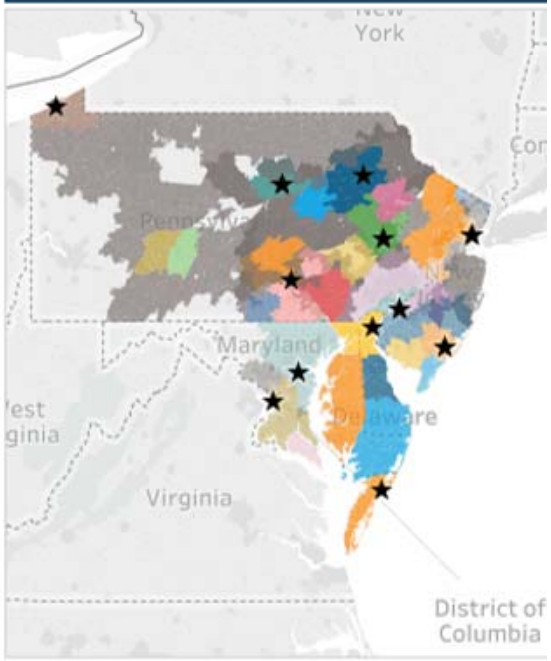
Winter Non-Coincident Peak



Zonal 10/15 Year Load Growth

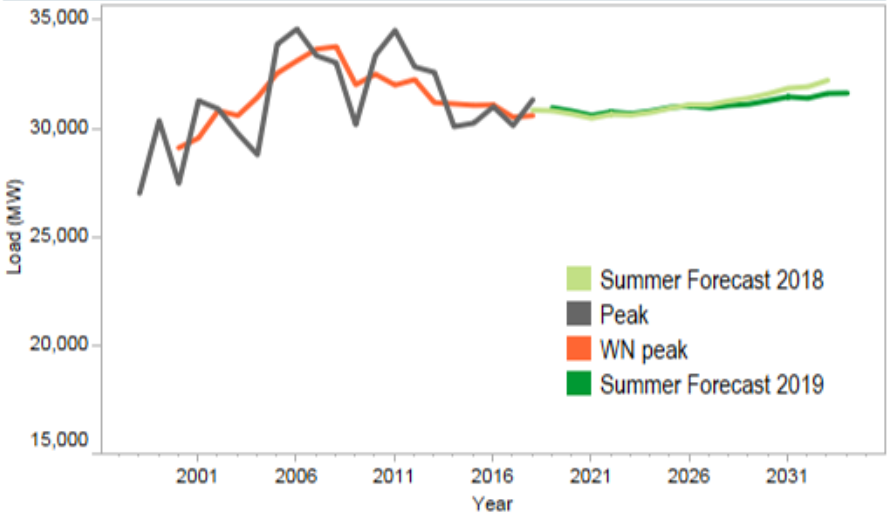


Metropolitan Statistical Areas and Weather Stations



PJM Eastern Mid-Atlantic (EMAC)

Summer Non-Coincident Peak

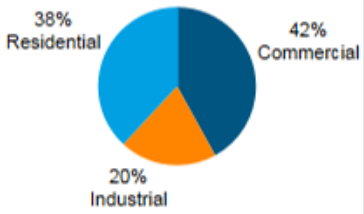


Weather - Annual Average 1993-2017

CDD	HDD	THI	WWP
1,224	*3,472*	*85*	*13*

CDD - Cooling Degree Days
HDD - Heating Degree Days
THI - Temperature-Humidity Index
WWP - Wind-Adjusted Temperature

RCI Makeup



RRO

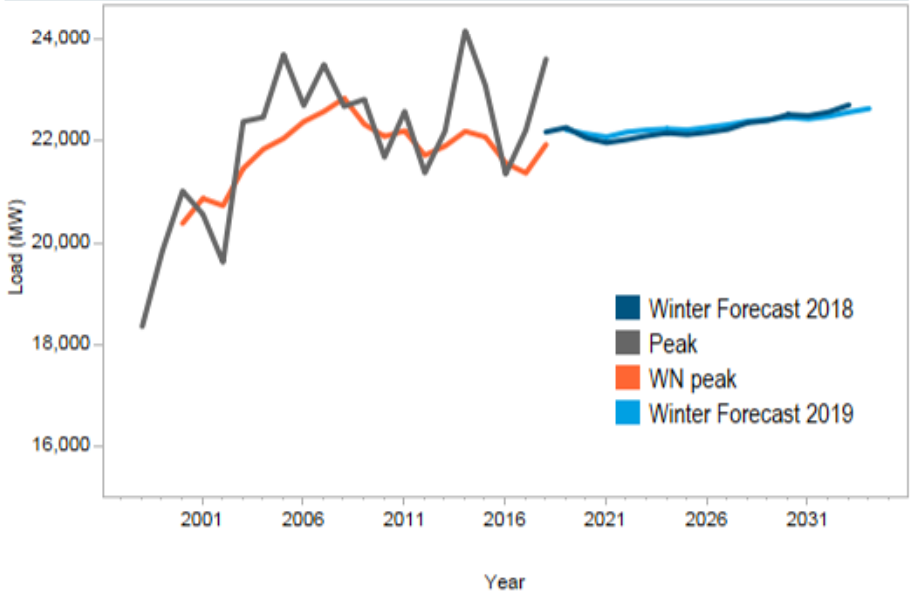
RFC

*Zone boundaries are approximate and do not reflect divided zipcodes

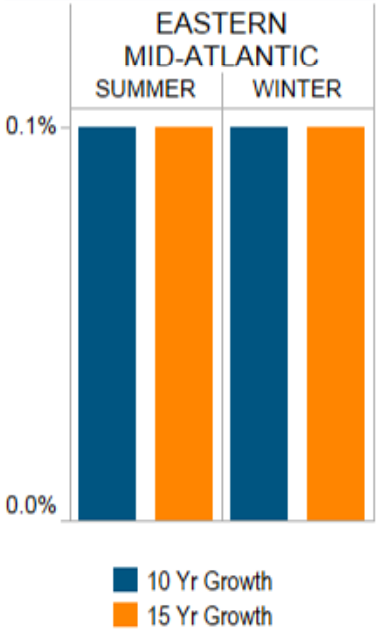
Zones

AE
DPL
JCPL
PECO
PSEG
RECO

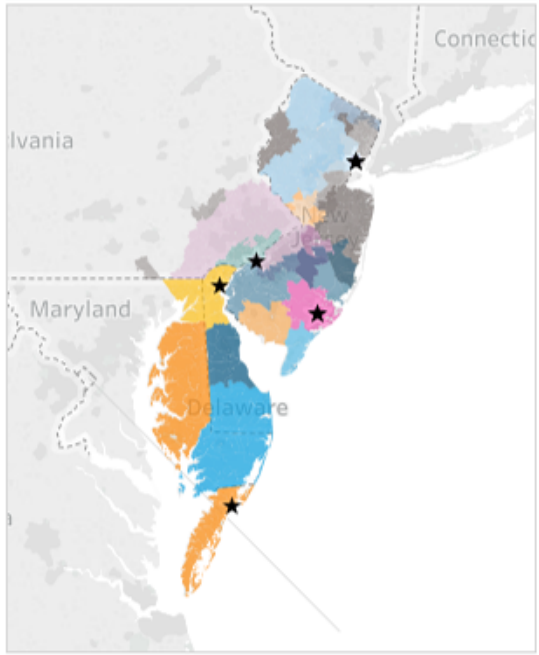
Winter Non-Coincident Peak



Zonal 10/15 Year Load Growth

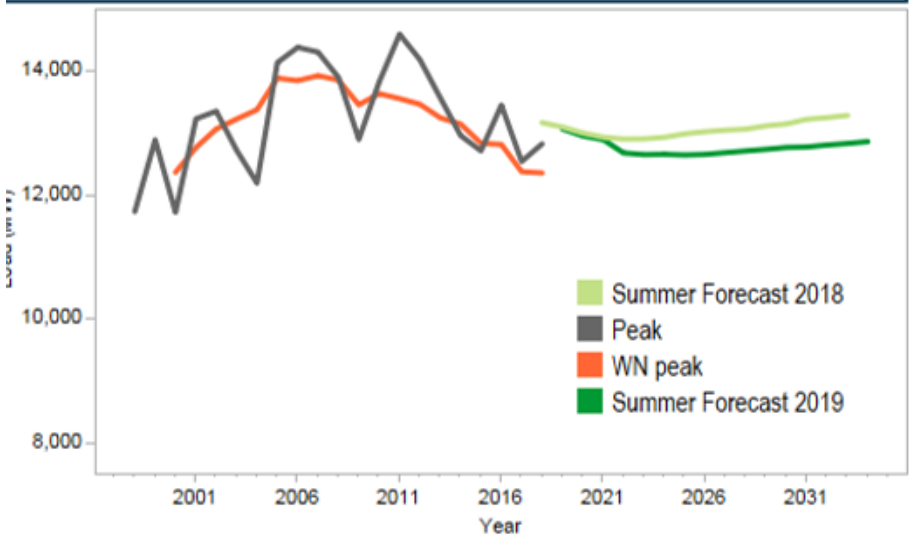


Metropolitan Statistical Areas and Weather Stations



PJM Southern Mid-Atlantic

Summer Non-Coincident Peak

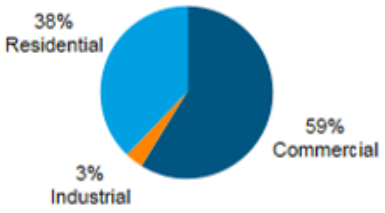


Weather - Annual Average 1993-2017

CDD	HDD	THI	WWP
1,367	*3,184*	*85*	*17*

CDD - Cooling Degree Days
HDD - Heating Degree Days
THI - Temperature-Humidity Index
WWP - Wind-Adjusted Temperature

RCI Makeup



RRO

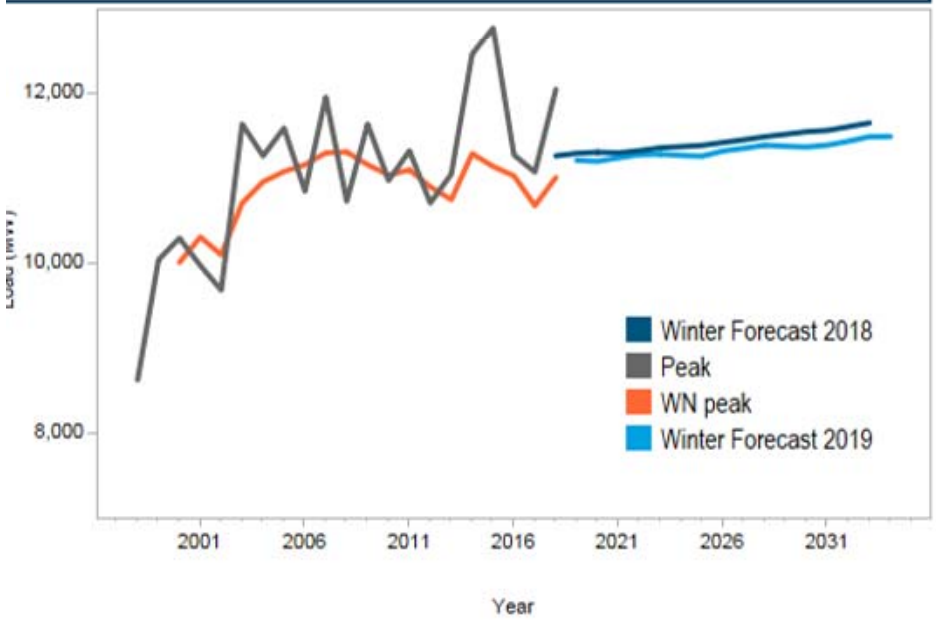
RFC

*Zone boundaries are approximate and do not reflect divided zipcodes

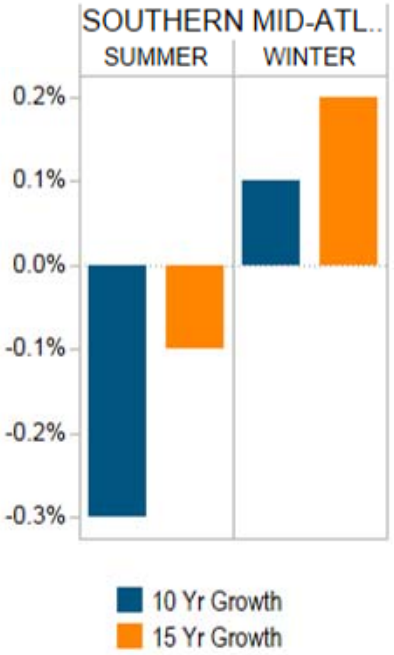
Zones

BGE PEPCO

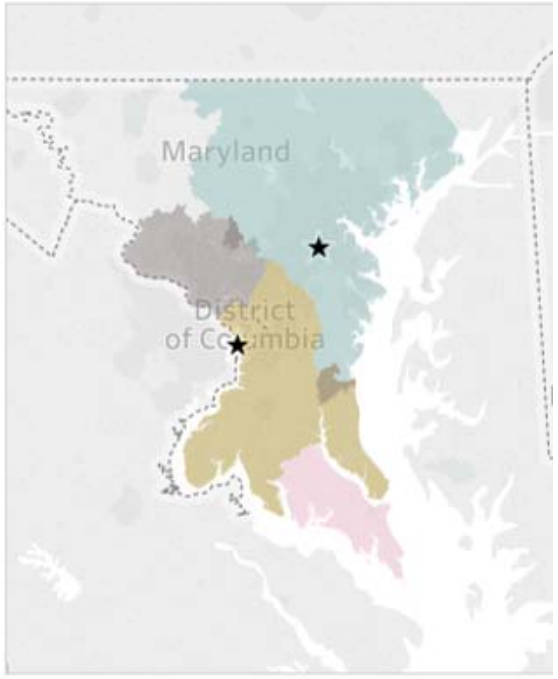
Winter Non-Coincident Peak



Zonal 10/15 Year Load Growth

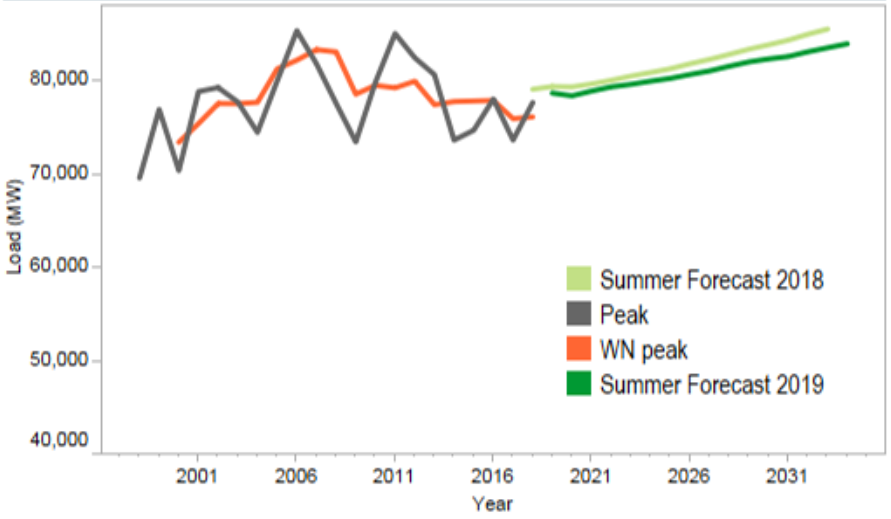


Metropolitan Statistical Areas and Weather Stations



PJM Western

Summer Non-Coincident Peak

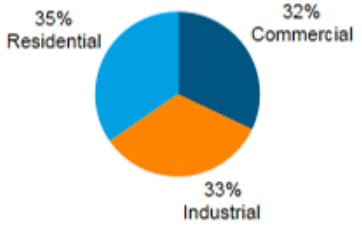


Weather - Annual Average 1993-2017

CDD	HDD	THI	WWP
888	4,305	83	6

CDD - Cooling Degree Days
HDD - Heating Degree Days
THI - Temperature-Humidity Index
WWP - Wind-Adjusted Temperature

RCI Makeup



RRO

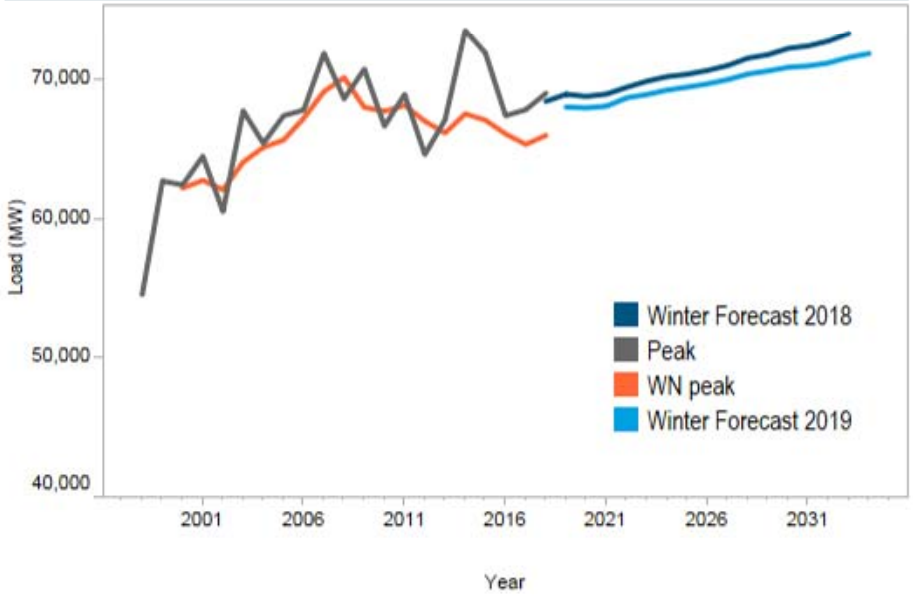
RFC SERC

*Zone boundaries are approximate and do not reflect divided zipcodes

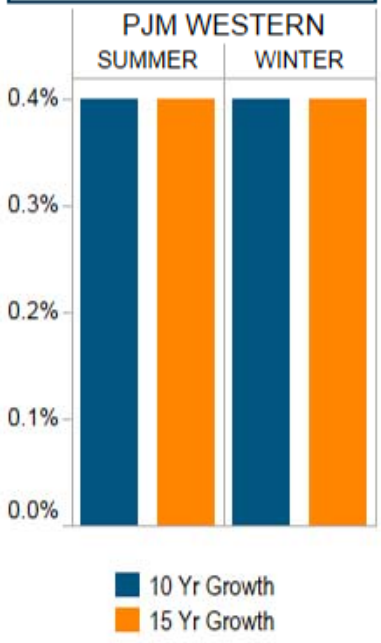
Zones

AEP	COMED	DLCO
APS	DAYTON	EKPC
ATSI	DEOK	OVEC

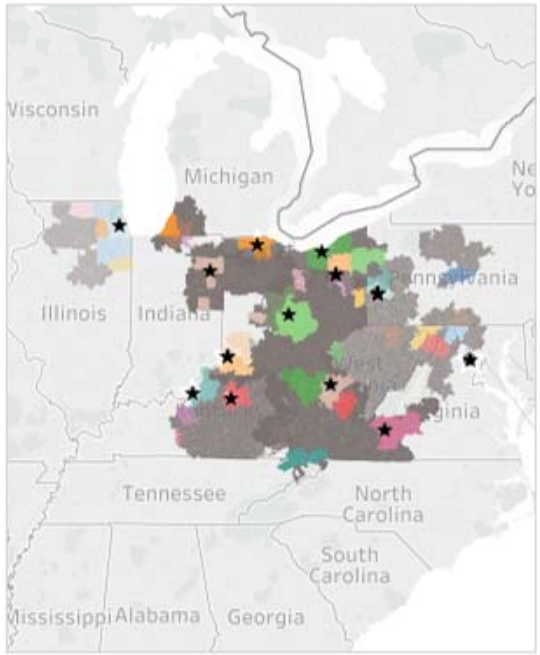
Winter Non-Coincident Peak



Zonal 10/15 Year Load Growth

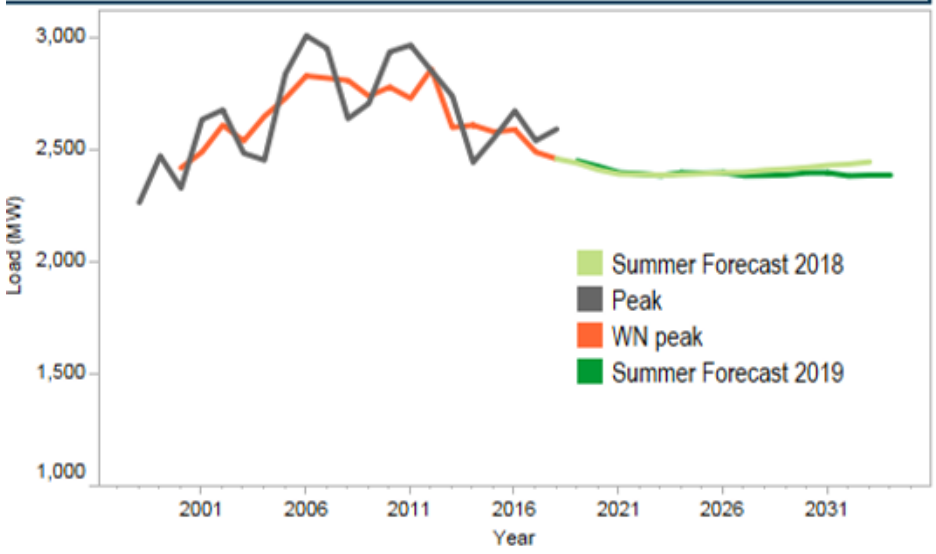


Metropolitan Statistical Areas and Weather Stations

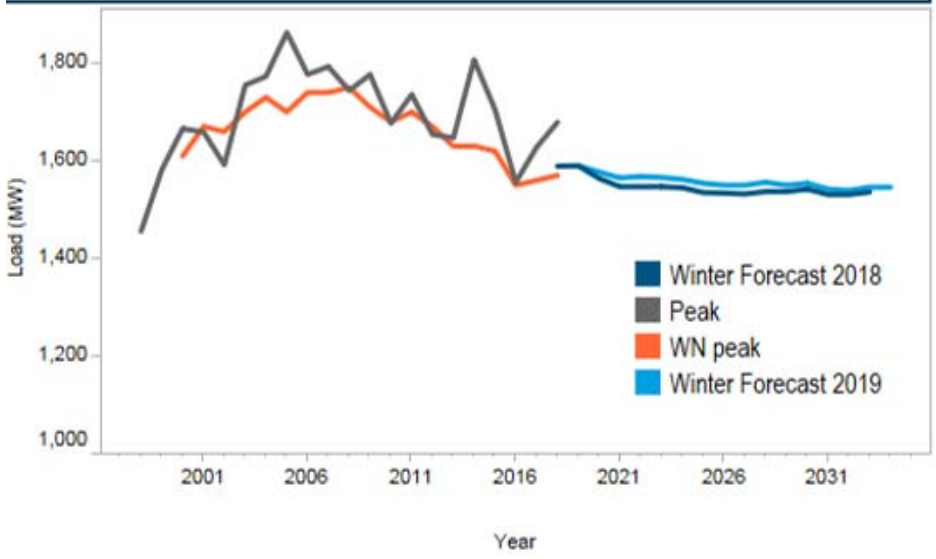


Atlantic City Electric (AE)

Summer Non-Coincident Peak



Winter Non-Coincident Peak

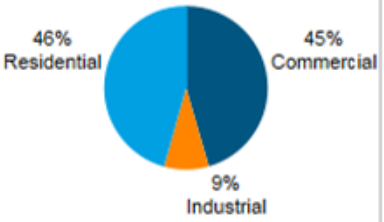


Weather - Annual Average 1993-2017

CDD	HDD	THI	WWP
1,031	3,570	85	15

CDD - Cooling Degree Days
HDD - Heating Degree Days
THI - Temperature-Humidity Index
WWP - Wind-Adjusted Temperature

RCI Makeup



LDAs

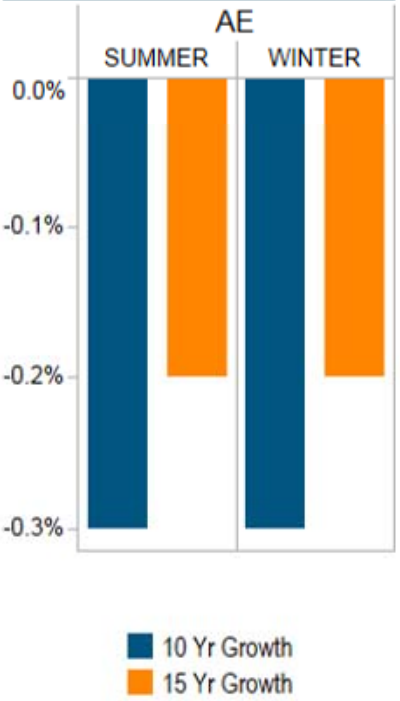
EASTERN MID-ATLANTIC
PJM MID-ATLANTIC
PJM RTO

RROs

RFC

*Zone boundaries are approximate and do not reflect divided zipcodes
*Weather station marks are sized based on weighting in load forecast

Zonal 10/15 Year Load Growth



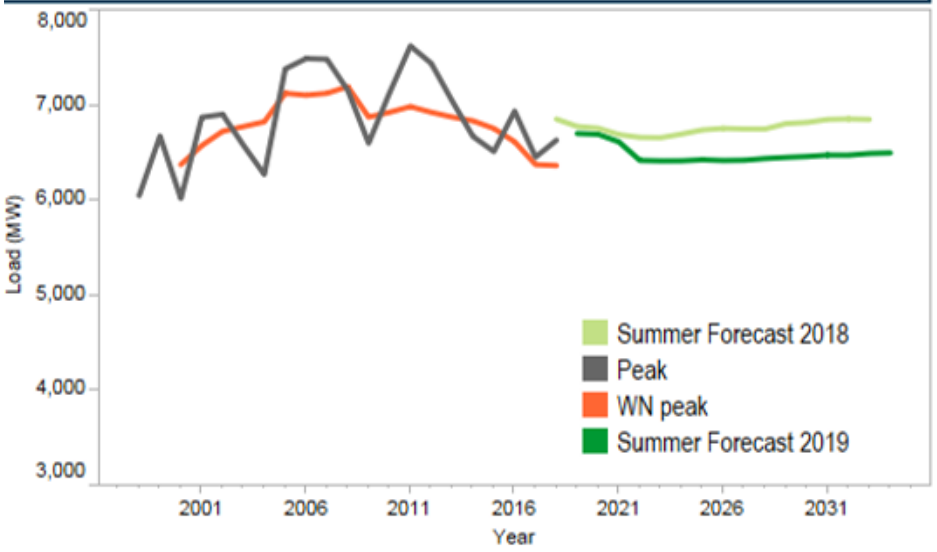
Metropolitan Statistical Areas and Weather Stations

MSA

- AE - Non-Metro
- Atlantic City-Hammonton, NJ MSA
- Ocean City, NJ MSA
- Vineland-Bridgeton, NJ MSA

Baltimore Gas and Electric (BGE)

Summer Non-Coincident Peak

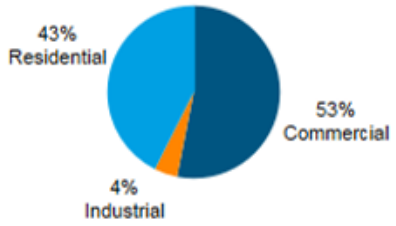


Weather - Annual Average 1993-2017

CDD	HDD	THI	WWP
1,227	*3,410*	*85*	*16*

CDD - Cooling Degree Days
HDD - Heating Degree Days
THI - Temperature-Humidity Index
WWP - Wind-Adjusted Temperature

RCI Makeup



LDAs

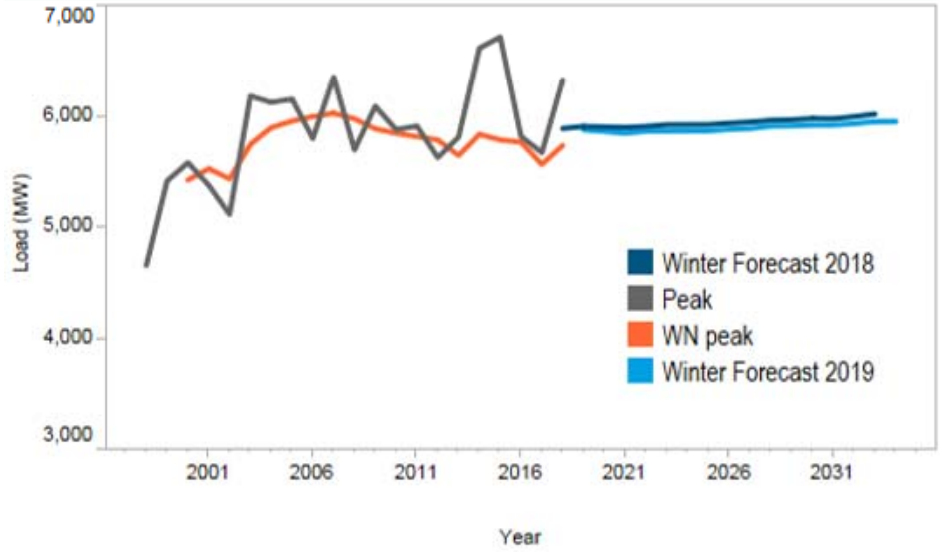
CENTRAL MID-ATLANTIC
PJM MID-ATLANTIC
PJM RTO
SOUTHERN MID-ATLANTIC

RROs

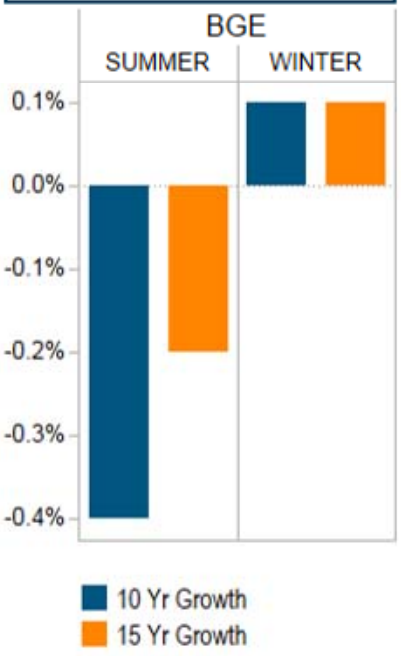
RFC

*Zone boundaries are approximate and do not reflect divided zipcodes
*Weather station marks are sized based on weighting in load forecast

Winter Non-Coincident Peak



Zonal 10/15 Year Load Growth

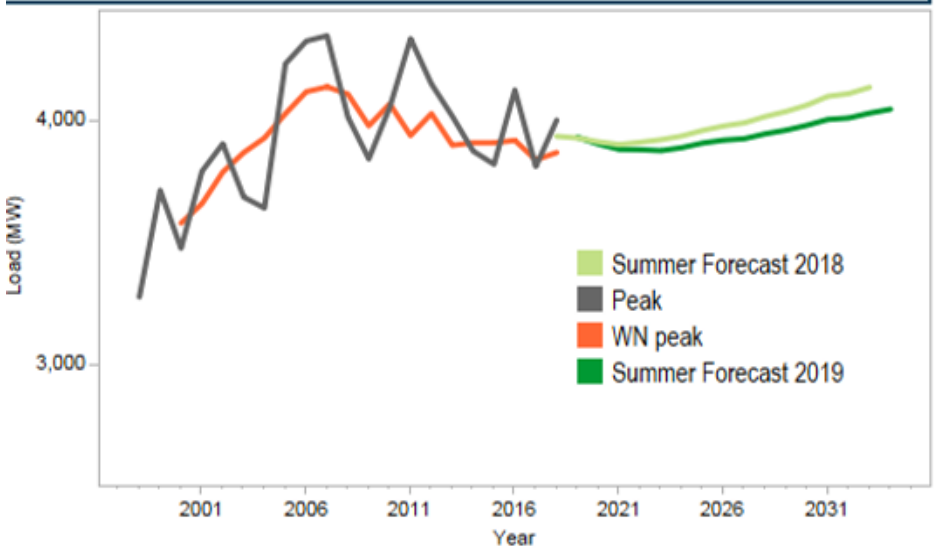


Metropolitan Statistical Areas and Weather Stations

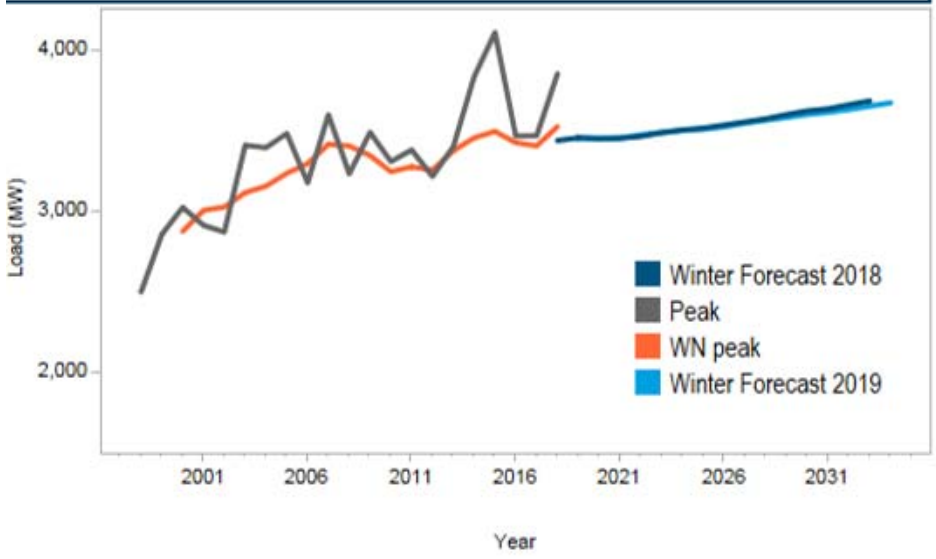
MSA
Baltimore-Columbia-Towson, MD MSA
BGE - Non-Metro

Delmarva Power and Light (DPL)

Summer Non-Coincident Peak



Winter Non-Coincident Peak

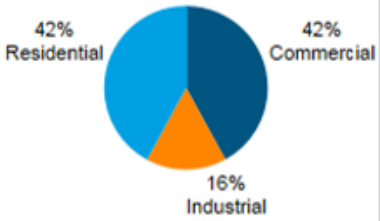


Weather - Annual Average 1993-2017

CDD	HDD	THI	WWP
1,172	*3,359*	*84*	*16*

CDD - Cooling Degree Days
HDD - Heating Degree Days
THI - Temperature-Humidity Index
WWP - Wind-Adjusted Temperature

RCI Makeup



LDAs

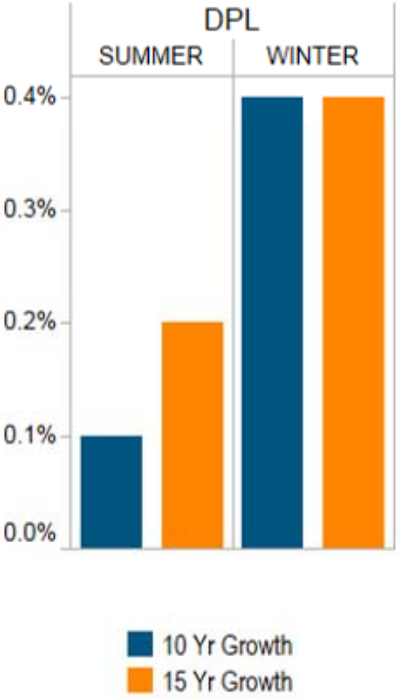
EASTERN MID-ATLANTIC
PJM MID-ATLANTIC
PJM RTO

RROs

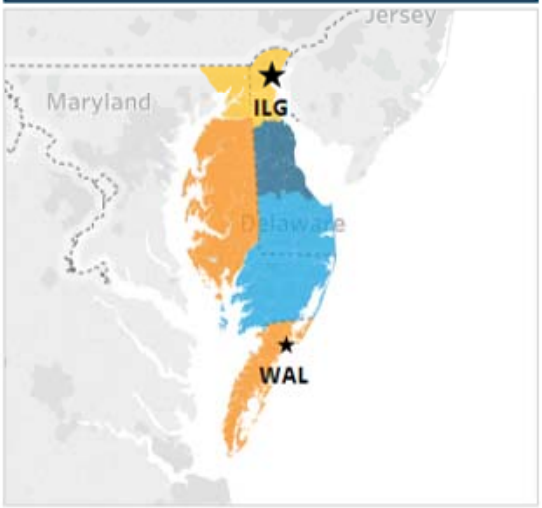
RFC

*Zone boundaries are approximate and do not reflect divided zipcodes
*Weather station marks are sized based on weighting in load forecast

Zonal 10/15 Year Load Growth



Metropolitan Statistical Areas and Weather Stations

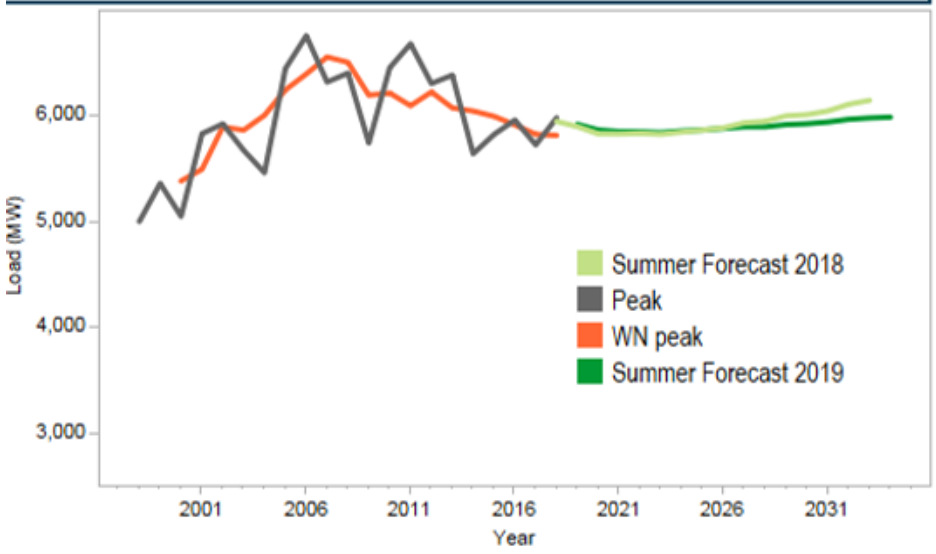


MSA

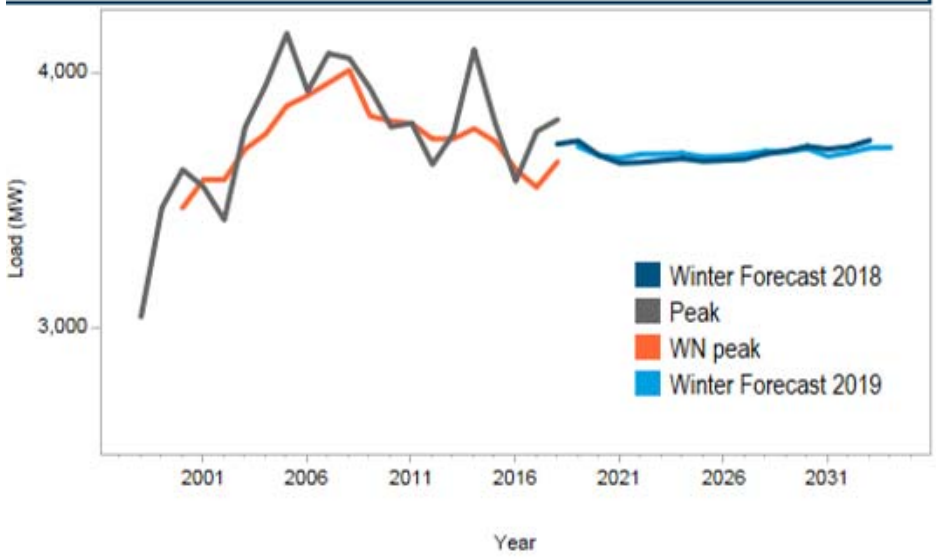
- Dover, DE Metropolitan Statistical Area
- DPL - Non-Metro
- Salisbury, MD-DE Metropolitan Statistical Area

Jersey Central Power and Light (JCPL)

Summer Non-Coincident Peak



Winter Non-Coincident Peak

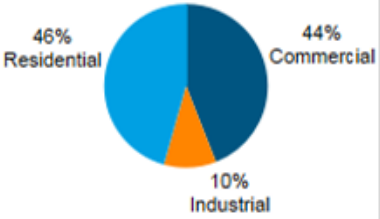


Weather - Annual Average 1993-2017

CDD	HDD	THI	WWP
1,183	3,559	85	12

CDD - Cooling Degree Days
HDD - Heating Degree Days
THI - Temperature-Humidity Index
WWP - Wind-Adjusted Temperature

RCI Makeup



LDAs

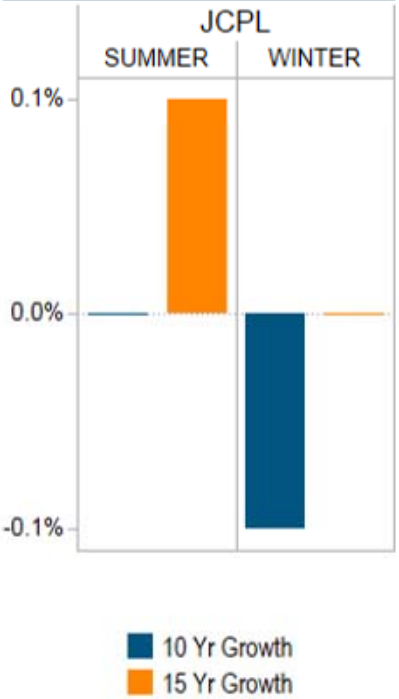
EASTERN MID-ATLANTIC
PJM MID-ATLANTIC
PJM RTO

RROs

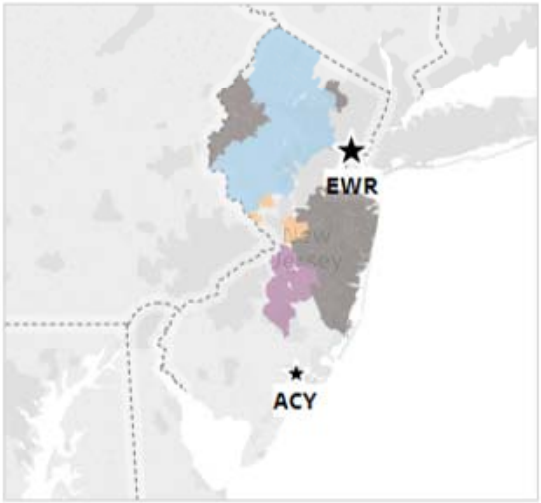
RFC

*Zone boundaries are approximate and do not reflect divided zipcodes
*Weather station marks are sized based on weighting in load forecast

Zonal 10/15 Year Load Growth



Metropolitan Statistical Areas and Weather Stations

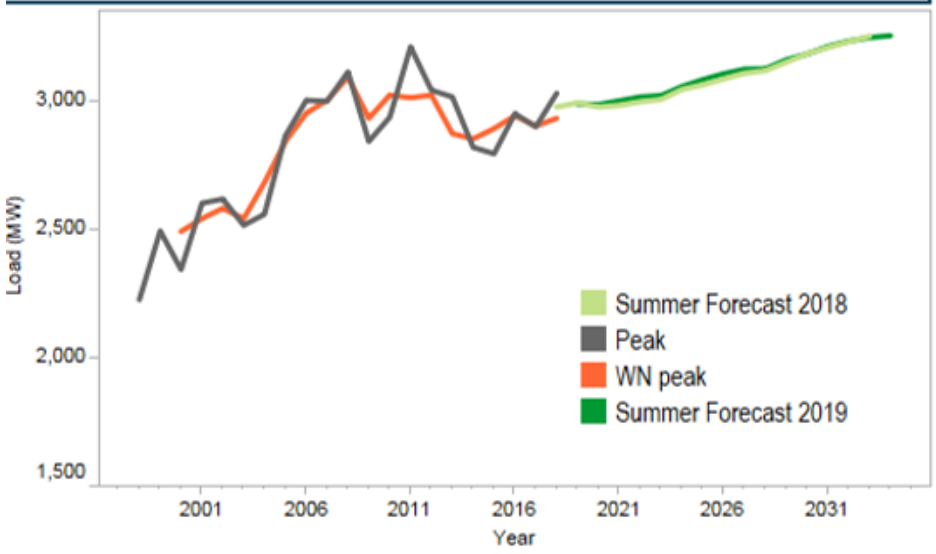


MSA

- Camden, NJ Metropolitan Division
- JCPL - Non-Metro
- Newark, NJ-PA Metropolitan Division

Metropolitan Edison (METED)

Summer Non-Coincident Peak



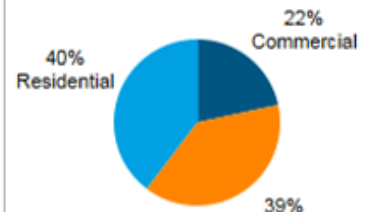
Winter Non-Coincident Peak

Weather - Annual Average 1993-2017

CDD	HDD	THI	WWP
1,081	3,802	84	12

CDD - Cooling Degree Days
HDD - Heating Degree Days
THI - Temperature-Humidity Index
WWP - Wind-Adjusted Temperature

RCI Makeup



LDAs

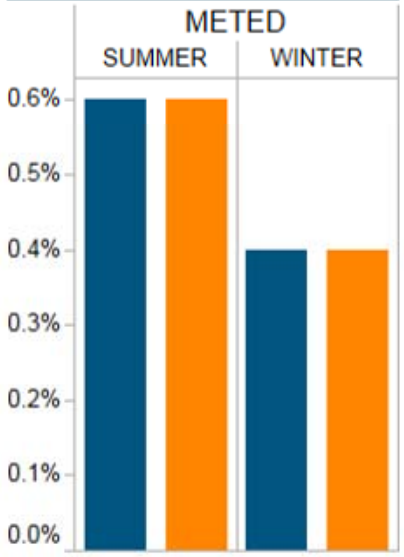
CENTRAL MID-ATLANTIC
PJM MID-ATLANTIC
PJM RTO
WESTERN MID-ATLANTIC

RROs

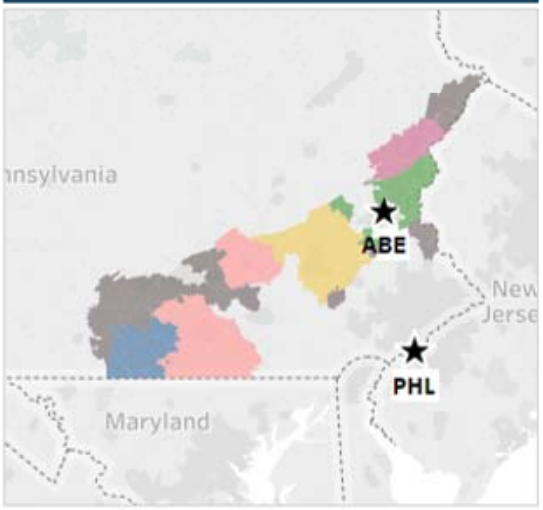
RFC

*Zone boundaries are approximate and do not reflect divided zipcodes
*Weather station marks are sized based on weighting in load forecast

Zonal 10/15 Year Load Growth



Metropolitan Statistical Areas and Weather Stations

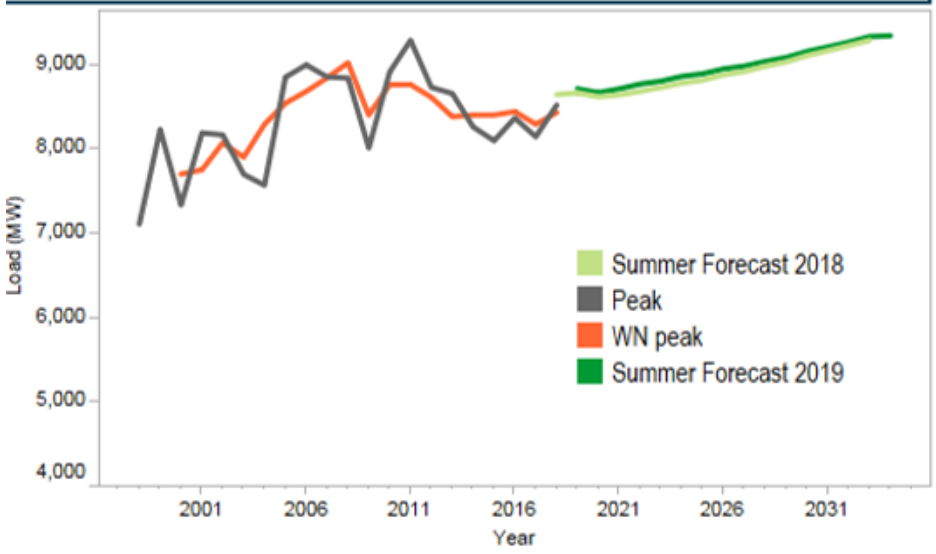


MSA

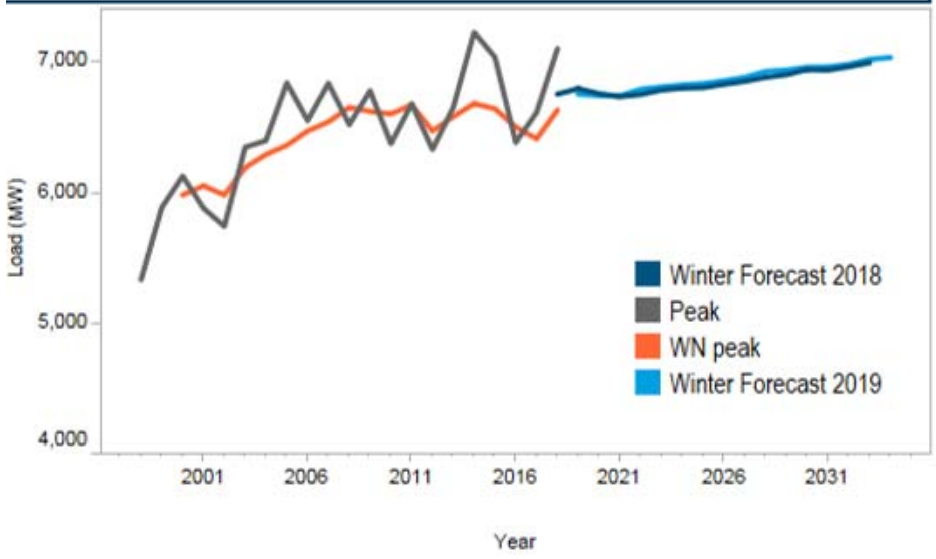
- Allentown-Bethlehem-Easton, PA-NJ MSA
- East Stroudsburg, PA Metropolitan Statistical Area
- Gettysburg, PA Metropolitan Statistical Area
- Lebanon, PA Metropolitan Statistical Area
- METED - Non-Metro
- Reading, PA MSA
- York-Hanover, PA MSA

PECO Energy (PECO)

Summer Non-Coincident Peak



Winter Non-Coincident Peak

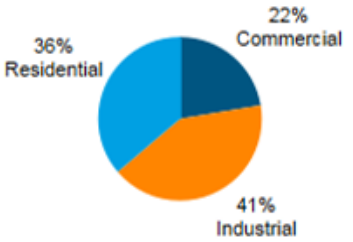


Weather - Annual Average 1993-2017

CDD	HDD	THI	WWP
1,311	3,368	85	14

CDD - Cooling Degree Days
HDD - Heating Degree Days
THI - Temperature-Humidity Index
WWP - Wind-Adjusted Temperature

RCI Makeup



LDAs

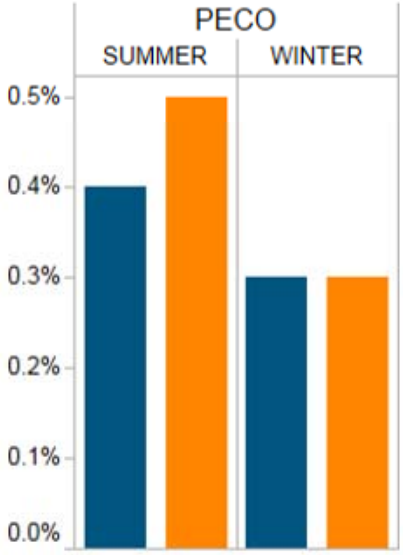
EASTERN MID-ATLANTIC
PJM MID-ATLANTIC
PJM RTO

RROs

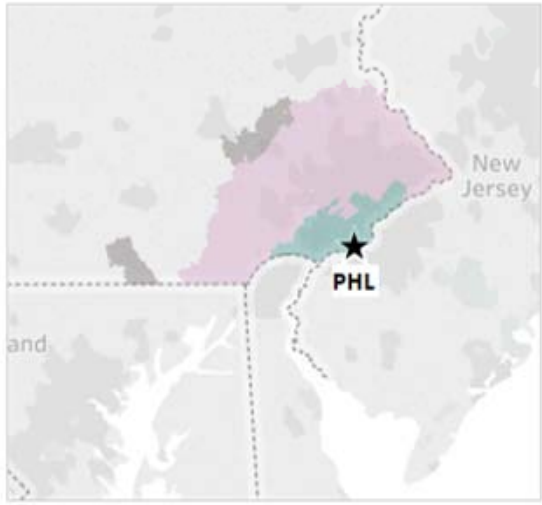
RFC

*Zone boundaries are approximate and do not reflect divided zipcodes
*Weather station marks are sized based on weighting in load forecast

Zonal 10/15 Year Load Growth



Metropolitan Statistical Areas and Weather Stations

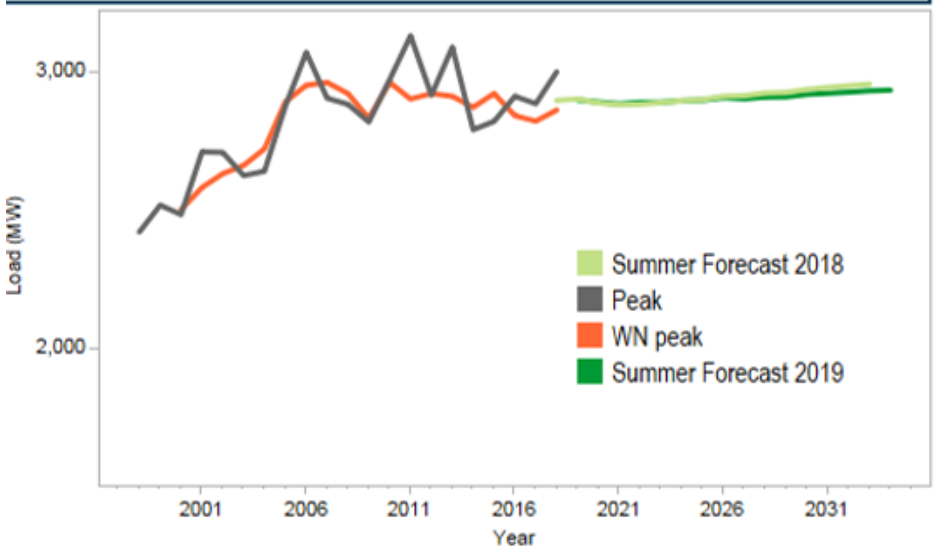


MSA

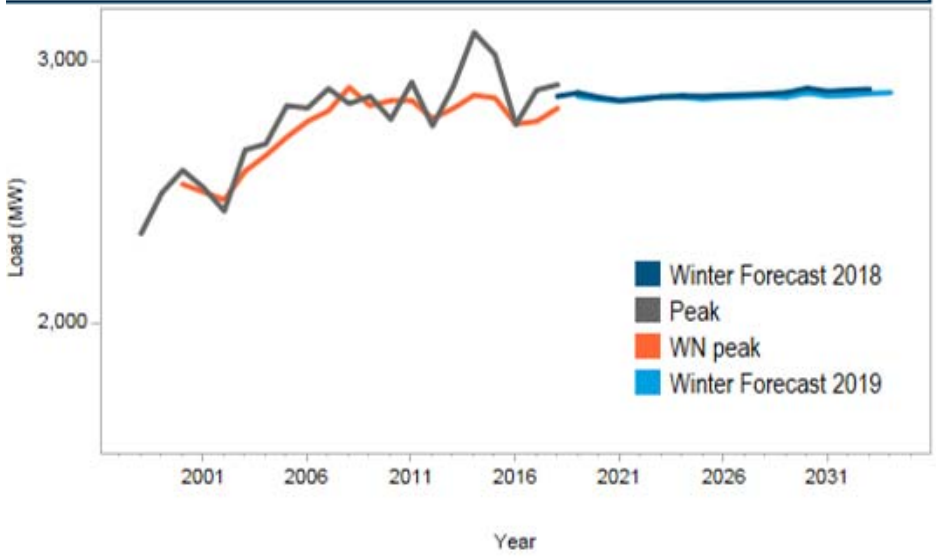
- Montgomery County-Bucks County-Chester County, PA Metro
- PECO - Non-Metro
- Philadelphia, PA Metropolitan Division

Pennsylvania Electric Company (PENLC)

Summer Non-Coincident Peak



Winter Non-Coincident Peak

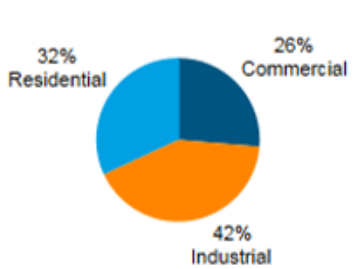


Weather - Annual Average 1993-2017

CDD	HDD	THI	WWP
681	4,667	82	8

CDD - Cooling Degree Days
HDD - Heating Degree Days
THI - Temperature-Humidity Index
WWP - Wind-Adjusted Temperature

RCI Makeup



LDAs

PJM MID-ATLANTIC
PJM RTO
WESTERN MID-ATLANTIC

RROs

RFC

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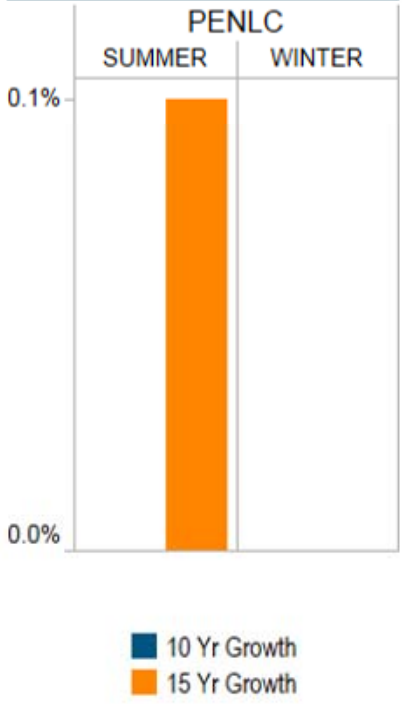
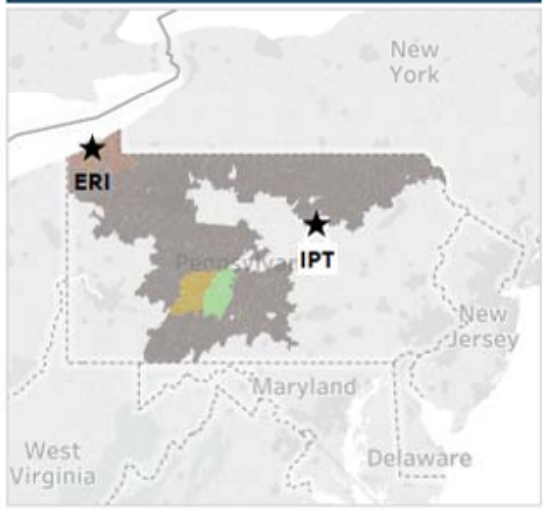
*Weather station marks are sized based on weighting in load forecast

Zonal 10/15 Year Load Growth



Metropolitan Statistical Areas and Weather Stations

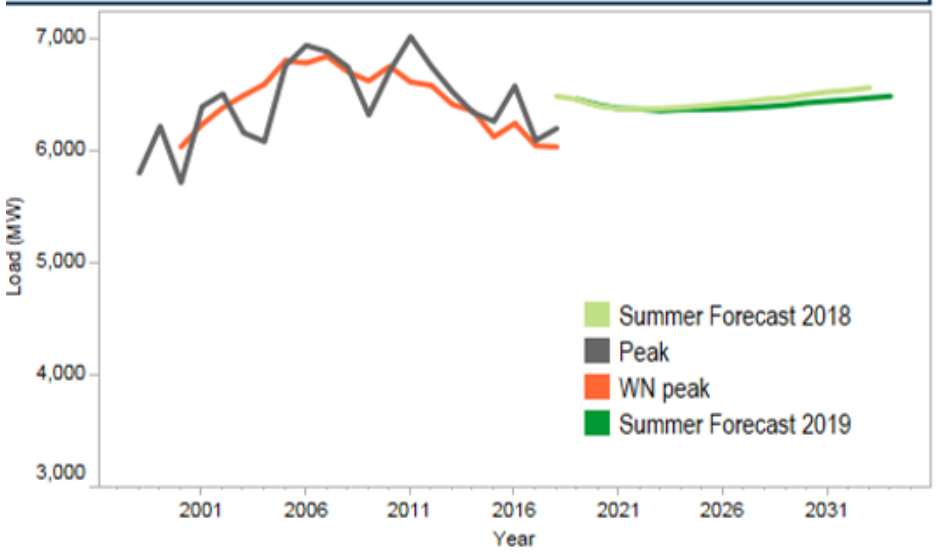


MSA

- Altoona, PA Metropolitan Statistical Area
- Erie, PA Metropolitan Statistical Area
- Johnstown, PA Metropolitan Statistical Area
- PENLC - Non-Metro

Potomac Electric Power (PEPCO)

Summer Non-Coincident Peak

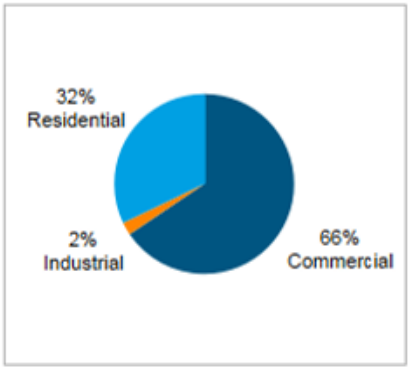


Weather - Annual Average 1993-2017

CDD	HDD	THI	WWP
1,513	2,941	85	18

CDD - Cooling Degree Days
HDD - Heating Degree Days
THI - Temperature-Humidity Index
WWP - Wind-Adjusted Temperature

RCI Makeup



LDAs

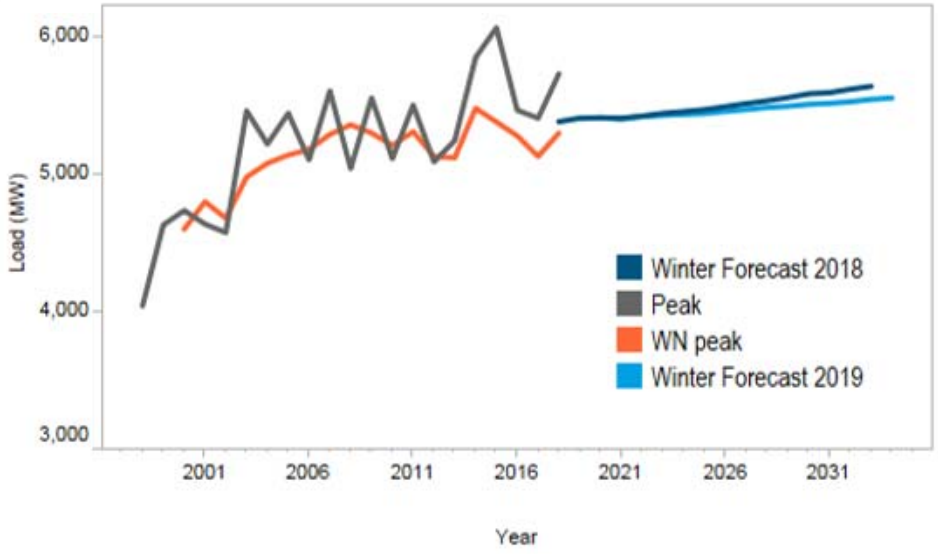
CENTRAL MID-ATLANTIC
PJM MID-ATLANTIC
PJM RTO
SOUTHERN MID-ATLANTIC

RROs

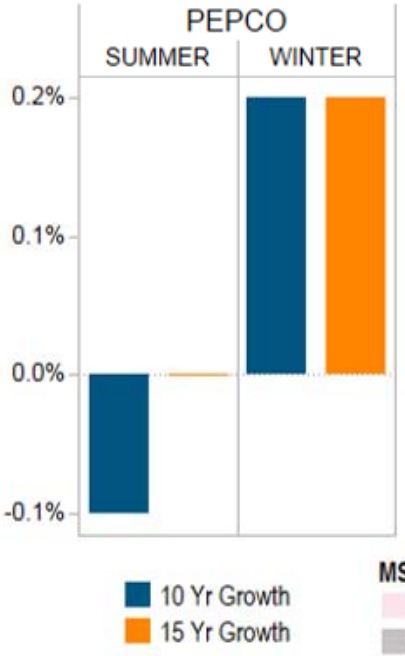
RFC

*Zone boundaries are approximate and do not reflect divided zipcodes
*Weather station marks are sized based on weighting in load forecast

Winter Non-Coincident Peak



Zonal 10/15 Year Load Growth



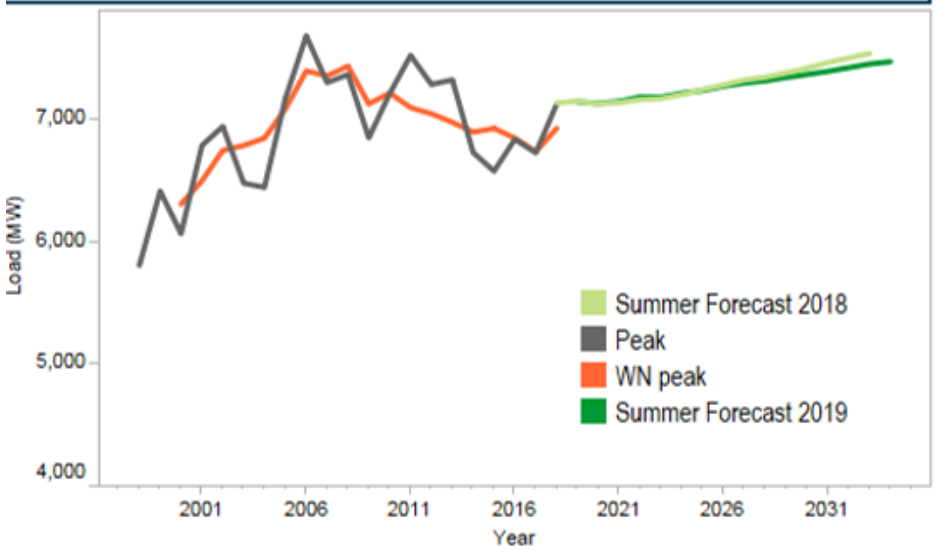
Metropolitan Statistical Areas and Weather Stations

MSA

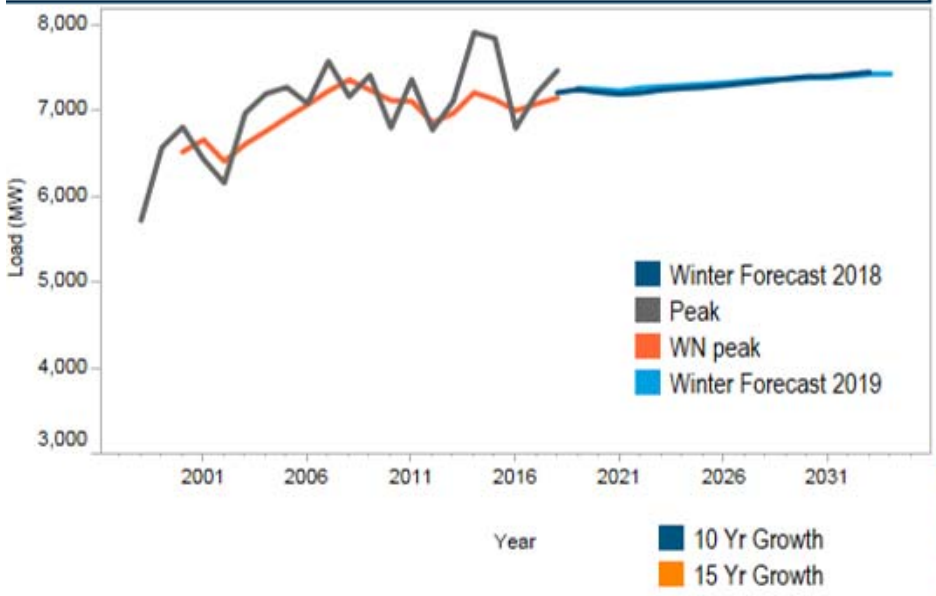
- California-Lexington Park, MD MSA
- PEPCO - Non-Metro
- Washington-Arlington-Alexandria, DC-VA-MD-WV MSA

PPL Electric Utilities (PL)

Summer Non-Coincident Peak



Winter Non-Coincident Peak

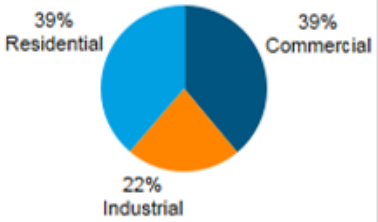


Weather - Annual Average 1993-2017

CDD	HDD	THI	WWP
812	4,373	83	10

CDD - Cooling Degree Days
HDD - Heating Degree Days
THI - Temperature-Humidity Index
WWP - Wind-Adjusted Temperature

RCI Makeup



LDAs

CENTRAL MID-ATLANTIC
PJM MID-ATLANTIC
PJM RTO
WESTERN MID-ATLANTIC

RROs

RFC

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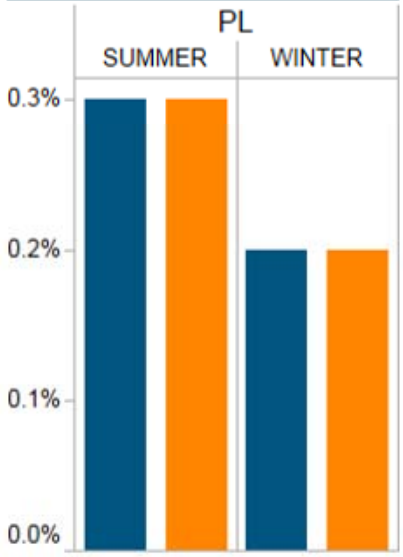
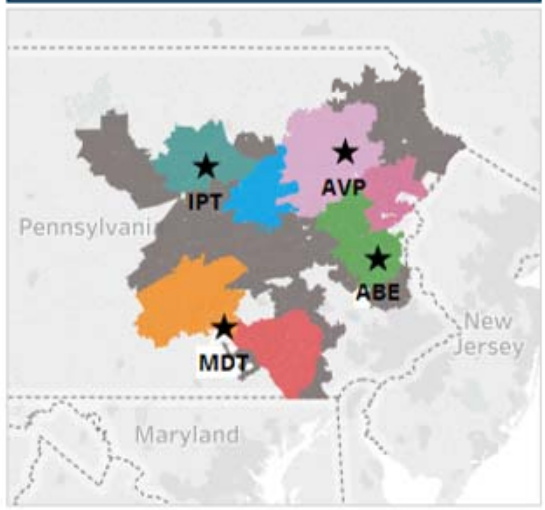
*Weather station marks are sized based on weighting in load forecast

Zonal 10/15 Year Load Growth



Metropolitan Statistical Areas and Weather Stations

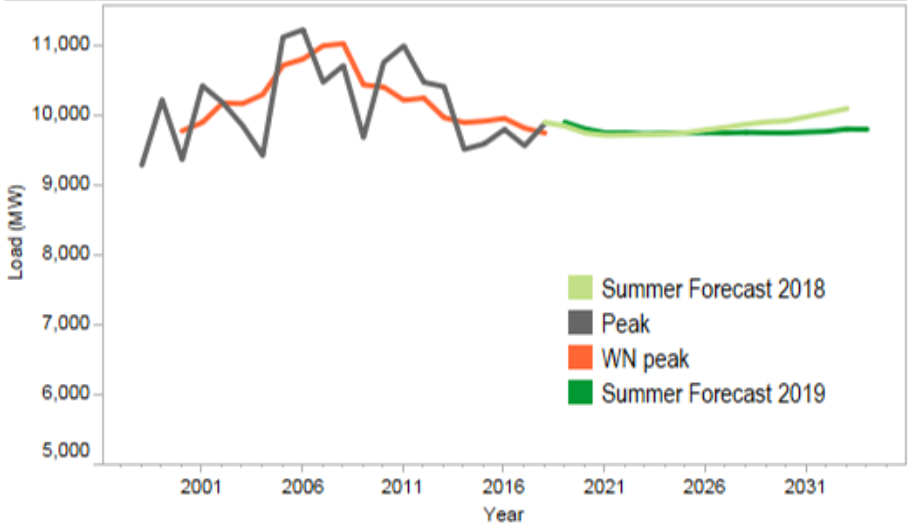


MSA

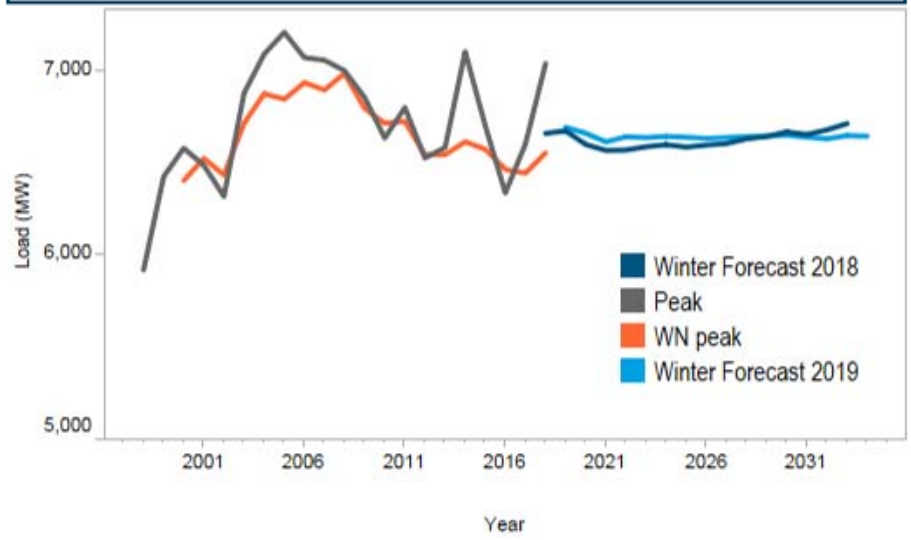
- Allentown-Bethlehem-Easton, PA-NJ MSA
- Bloomsburg-Berwick, PA MSA
- East Stroudsburg, PA MSA
- Harrisburg-Carlisle, PA MSA
- MSA
- PL - Non-Metro
- Scranton--Wilkes-Barre--Hazleton, PA M
- Williamsport, PA MSA

Public Service Electric & Gas (PS)

Summer Non-Coincident Peak



Winter Non-Coincident Peak

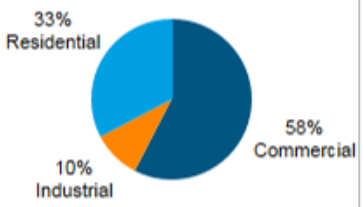


Weather - Annual Average 1993-2017

CDD	HDD	THI	WWP
1,240	*3,563*	*85*	*11*

CDD - Cooling Degree Days
HDD - Heating Degree Days
THI - Temperature-Humidity Index
WWP - Wind-Adjusted Temperature

RCI Makeup



LDAs

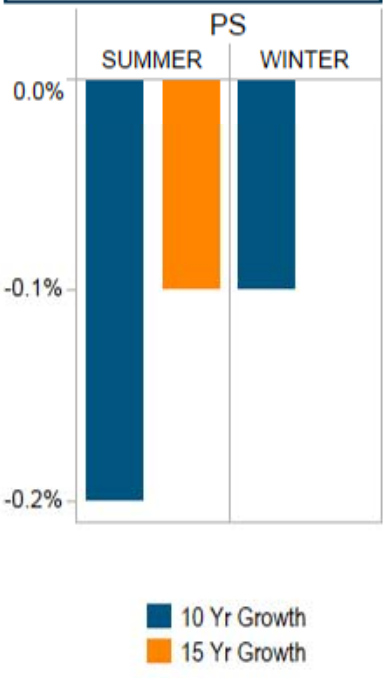
EASTERN MID-ATLANTIC
PJM MID-ATLANTIC
PJM RTO

RROs

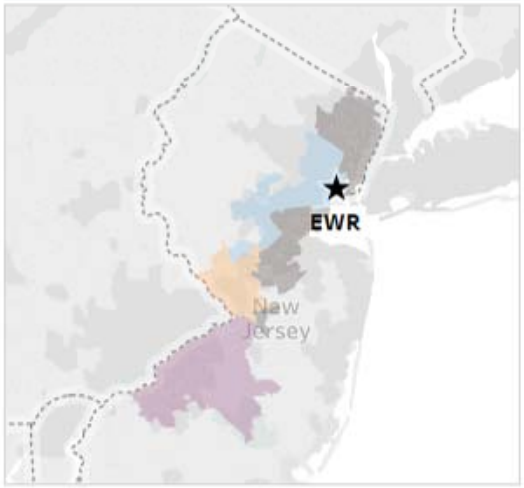
RFC

*Zone boundaries are approximate and do not reflect divided zipcodes
*Weather station marks are sized based on weighting in load forecast

Zonal 10/15 Year Load Growth



Metropolitan Statistical Areas and Weather Stations

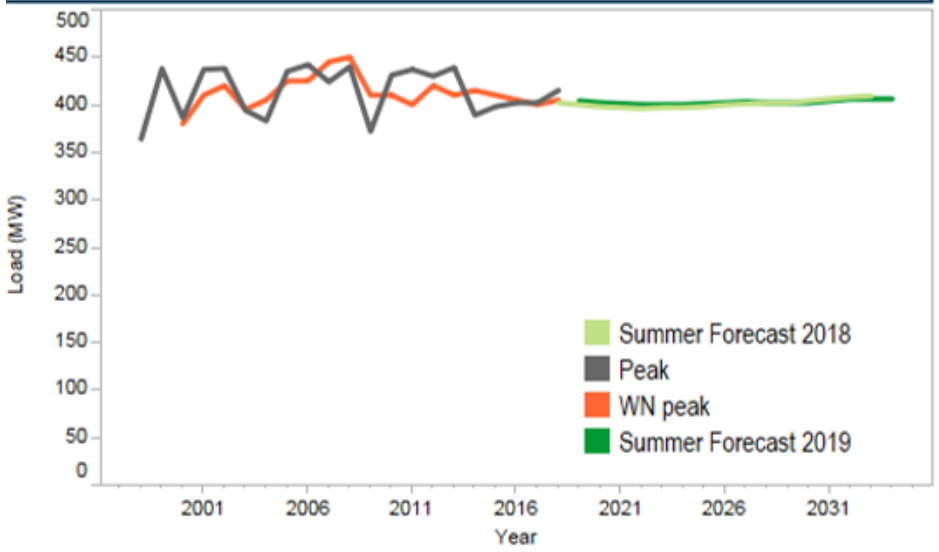


MSA

- Camden, NJ Metropolitan Division
- Newark, NJ-PA Metropolitan Division
- PS - Non-Metro
- Trenton, NJ Metropolitan Statistical Area

Rockland Electric (RECO)

Summer Non-Coincident Peak

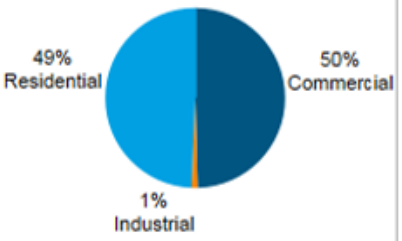


Weather - Annual Average 1993-2017

CDD	HDD	THI	WWP
1,240	3,563	85	11

CDD - Cooling Degree Days
HDD - Heating Degree Days
THI - Temperature-Humidity Index
WWP - Wind-Adjusted Temperature

RCI Makeup



LDAs

EASTERN MID-ATLANTIC
PJM MID-ATLANTIC
PJM RTO

RROs

RFC

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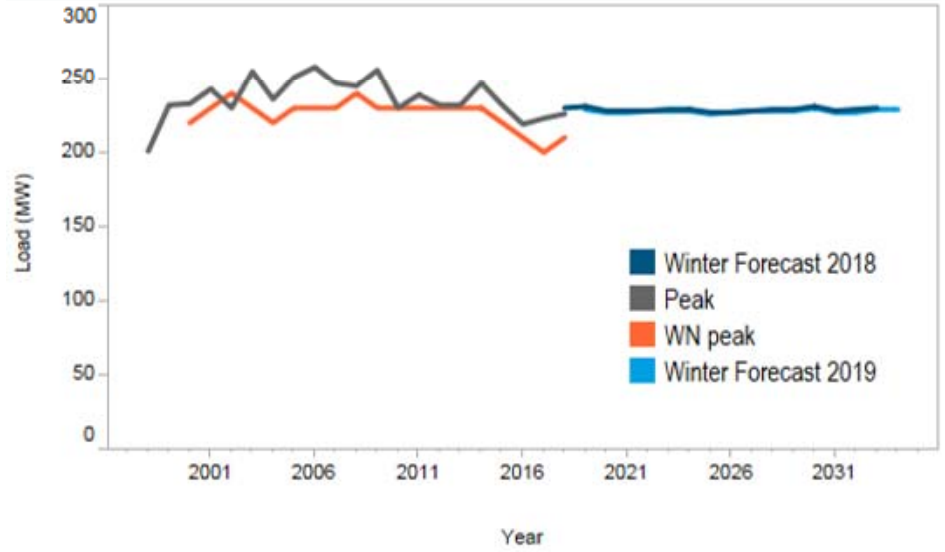
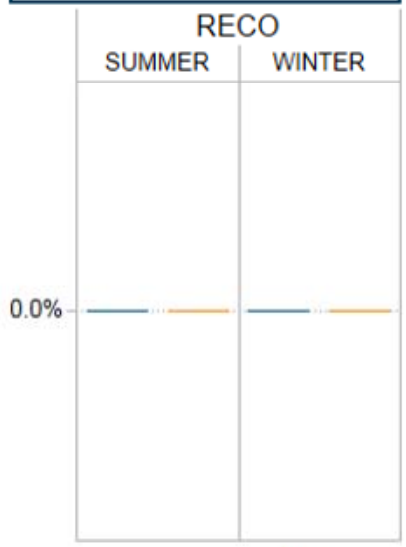
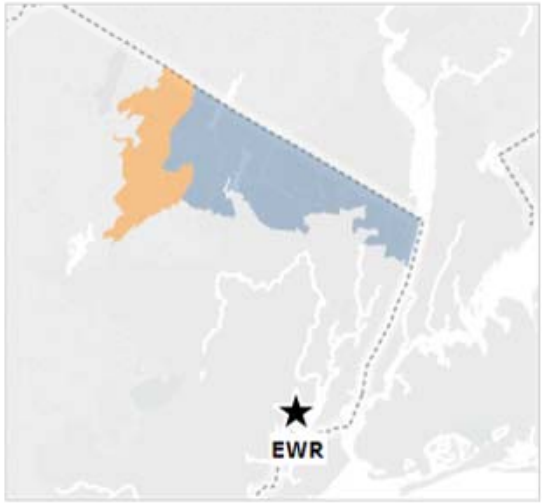
Winter Non-Coincident Peak



Zonal 10/15 Year Load Growth

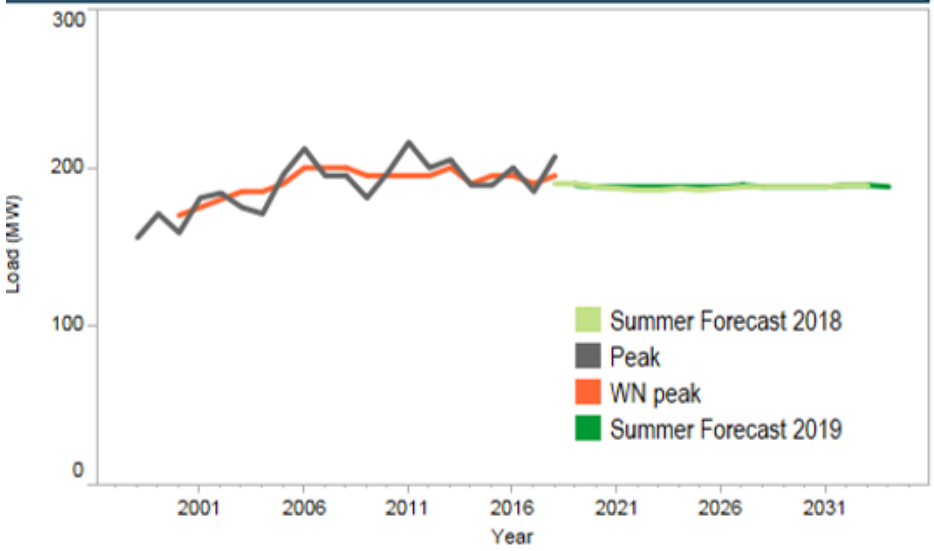


Metropolitan Statistical Areas and Weather Stations



UGI Utilities (UGI)

Summer Non-Coincident Peak

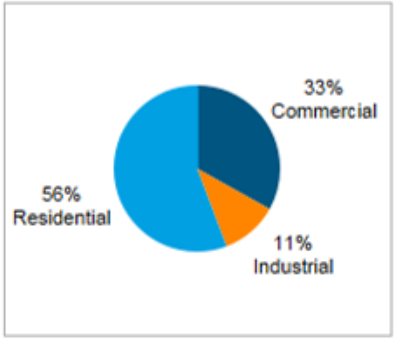


Weather - Annual Average 1993-2017

CDD	HDD	THI	WWP
644	4,732	82	6

CDD - Cooling Degree Days
HDD - Heating Degree Days
THI - Temperature-Humidity Index
WWP - Wind-Adjusted Temperature

RCI Makeup



LDAs

CENTRAL MID-ATLANTIC
PJM MID-ATLANTIC
PJM RTO
WESTERN MID-ATLANTIC

RROs

RFC

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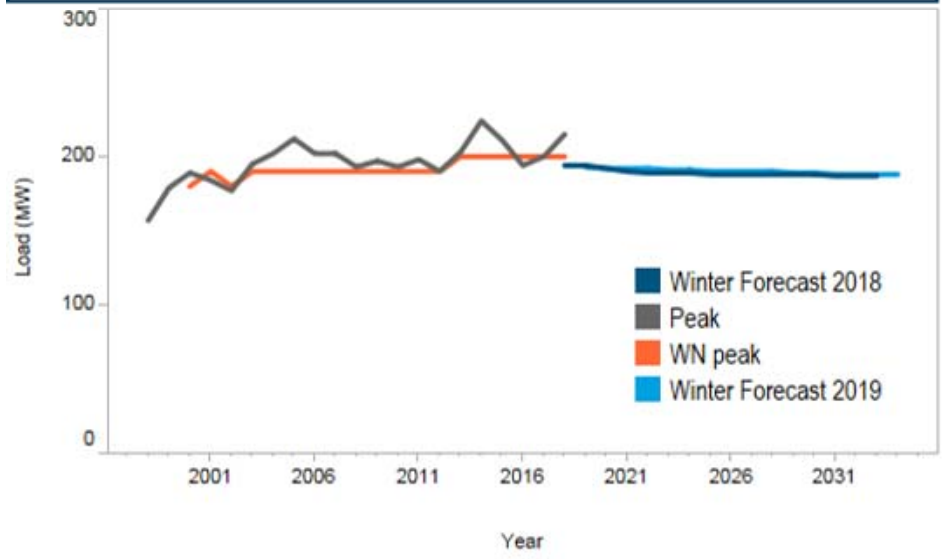
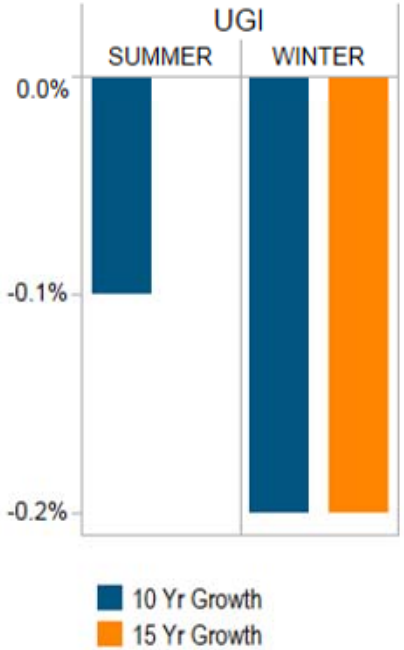
*Weather station marks are sized based on weighting in load forecast

Winter Non-Coincident Peak



Zonal 10/15 Year Load Growth



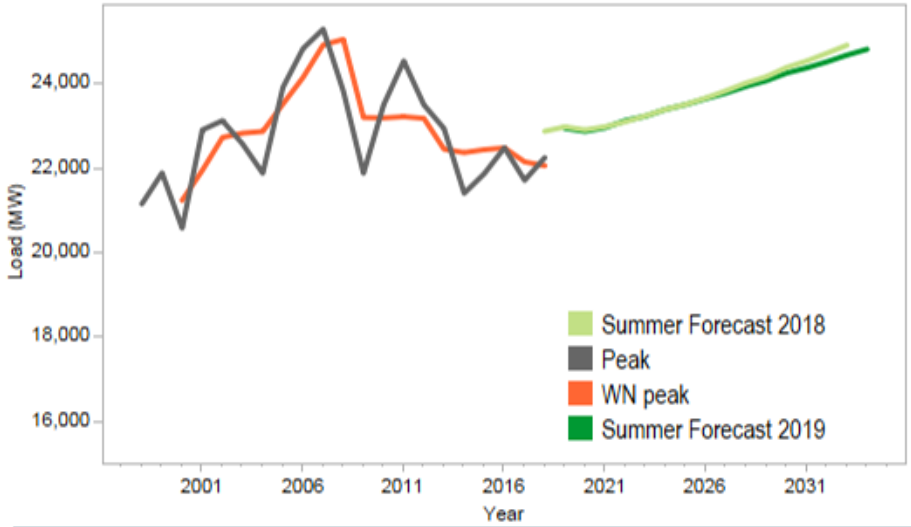
Metropolitan Statistical Areas and Weather Stations

MSA

Scranton--Wilkes-Barre--Hazleton, PA MSA

American Electric Power (AEP)

Summer Non-Coincident Peak

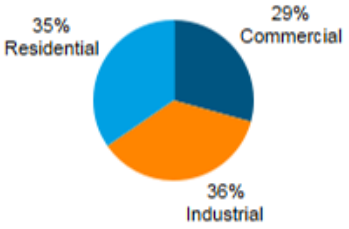


Weather - Annual Average 1993-2017

CDD	HDD	THI	WWP
901	3,966	82	9

CDD - Cooling Degree Days
HDD - Heating Degree Days
THI - Temperature-Humidity Index
WWP - Wind-Adjusted Temperature

RCI Makeup



LDAs

PJM RTO
PJM WESTERN

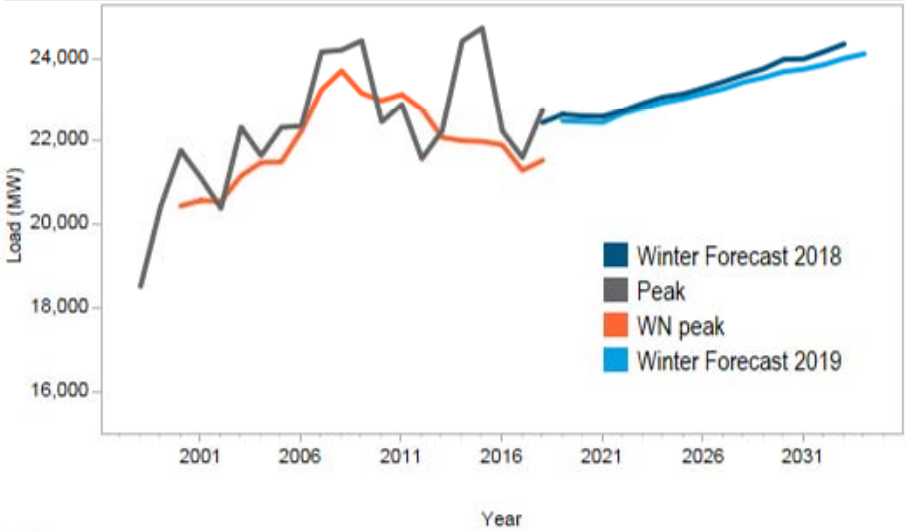
RROs

RFC

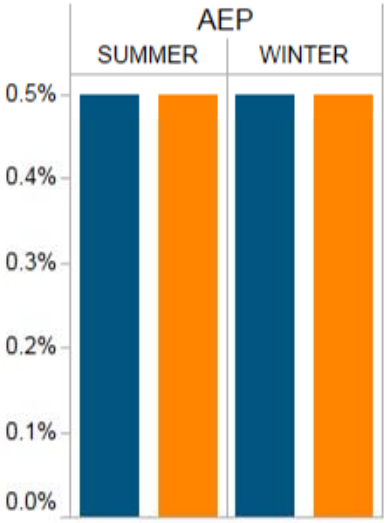
10 Yr Growth
15 Yr Growth

*Zone boundaries are approximate and do not reflect divided zipcodes
*Weather station marks are sized based on weighting in load forecast

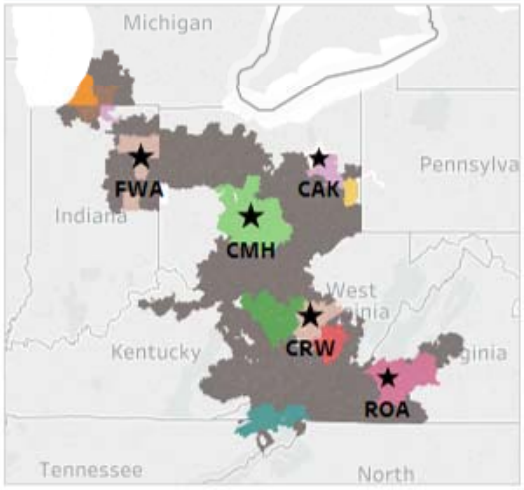
Winter Non-Coincident Peak



Zonal 10/15 Year Load Growth



Metropolitan Statistical Areas and Weather Stations

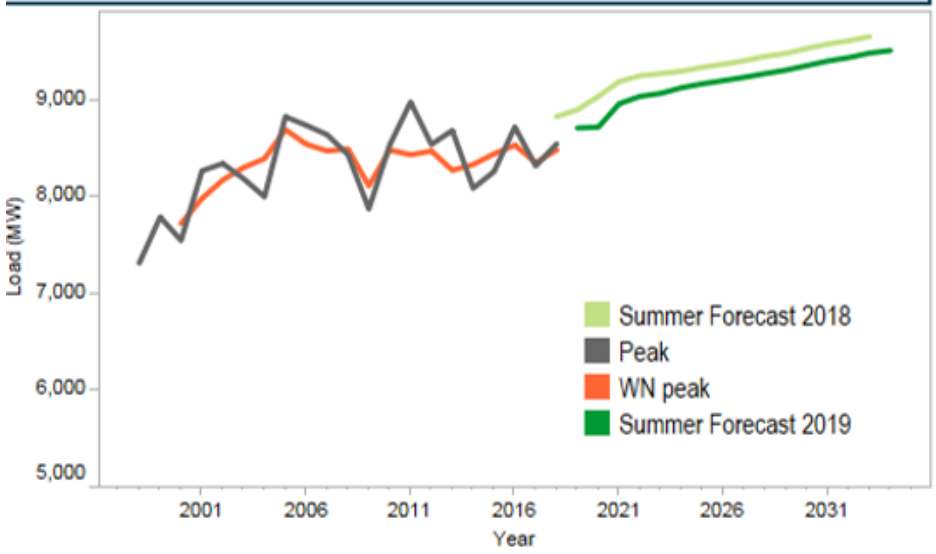


MSA

- AEP - Non-Metro
- Beckley, WV MSA
- Blacksburg-Christiansburg-Radford, VA MSA
- Canton-Massillon, OH MSA
- Charleston, WV MSA
- Columbus, OH MSA
- Elkhart-Goshen, IN MSA
- Fort Wayne, IN MSA
- Huntington-Ashland, WV-KY-OH MSA
- Kingsport-Bristol-Bristol, TN-VA MSA
- Lynchburg, VA MSA
- Muncie, IN MSA
- Niles-Benton Harbor, MI MSA
- Roanoke, VA MSA
- South Bend-Mishawaka, IN-MI MSA
- Weirton-Steubenville, WV-OH MSA

Allegheny Power Systems (APS)

Summer Non-Coincident Peak

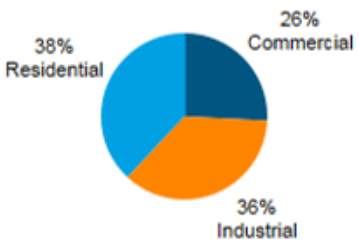


Weather - Annual Average 1993-2017

CDD	HDD	THI	WWP
876	4,072	82	9

CDD - Cooling Degree Days
HDD - Heating Degree Days
THI - Temperature-Humidity Index
WWP - Wind-Adjusted Temperature

RCI Makeup



LDAs

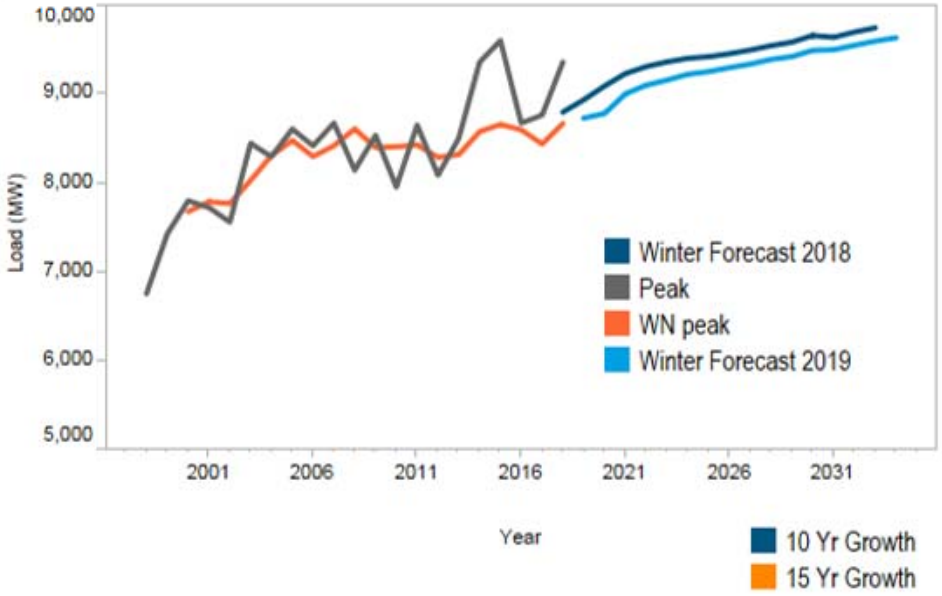
PJM RTO
PJM WESTERN

RROs

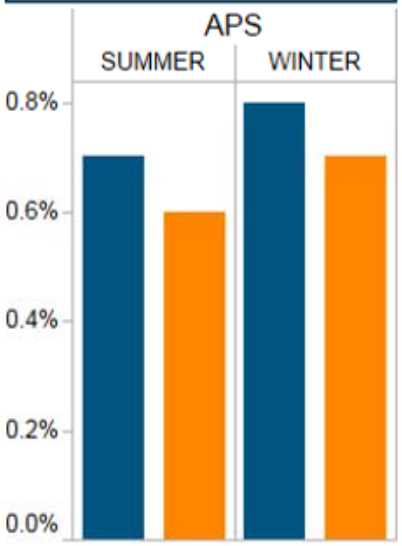
RFC

*Zone boundaries are approximate and do not reflect divided zipcodes
*Weather station marks are sized based on weighting in load forecast

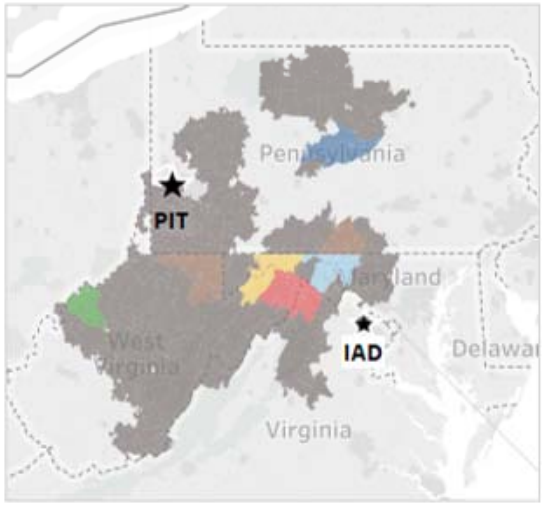
Winter Non-Coincident Peak



Zonal 10/15 Year Load Growth



Metropolitan Statistical Areas and Weather Stations

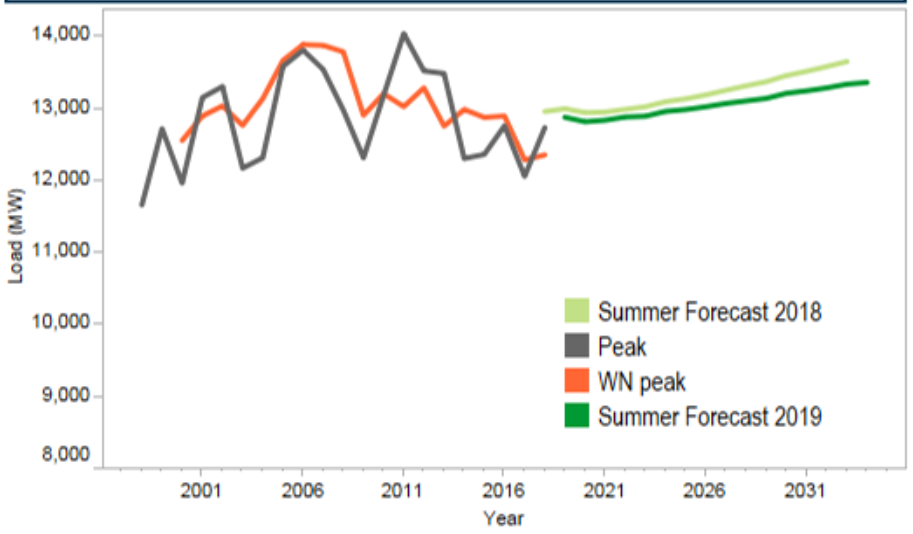


MSA

- APS - Non-metro
- Chambersburg-Waynesboro, PA MSA
- Cumberland, MD-WV MSA
- Hagerstown-Martinsburg, MD-WV MSA
- Morgantown, WV MSA
- Parkersburg-Vienna, WV MSA
- State College, PA MSA
- Winchester, VA-WV MSA

American Transmission Systems, Inc. (ATSI)

Summer Non-Coincident Peak

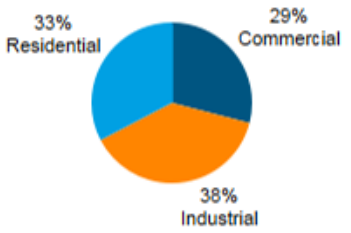


Weather - Annual Average 1993-2017

CDD	HDD	THI	WWP
744	4,677	82	4

CDD - Cooling Degree Days
HDD - Heating Degree Days
THI - Temperature-Humidity Index
WWP - Wind-Adjusted Temperature

RCI Makeup



LDAs

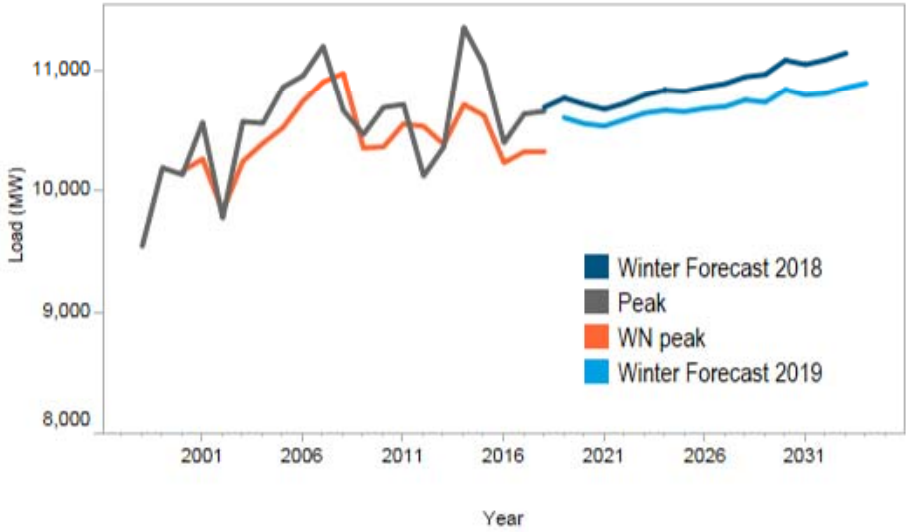
PJM RTO
PJM WESTERN

RROs

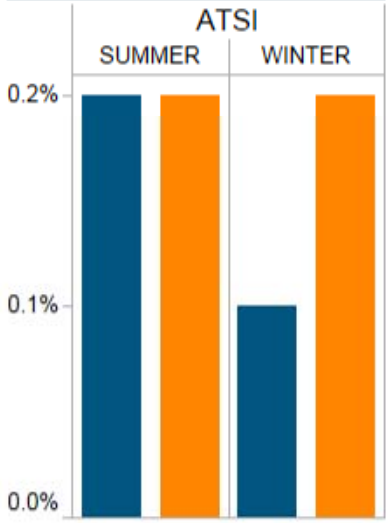
RFC

*Zone boundaries are approximate and do not reflect divided zipcodes
*Weather station marks are sized based on weighting in load forecast

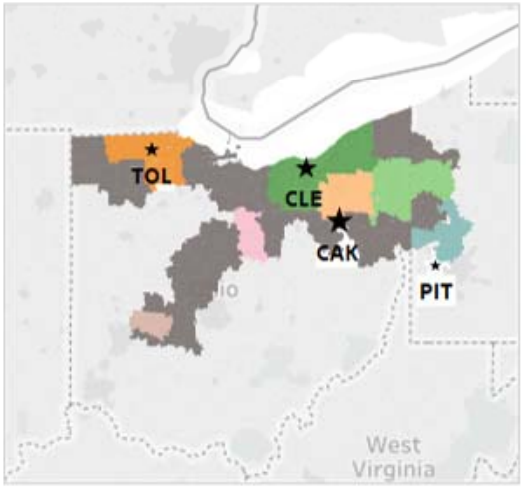
Winter Non-Coincident Peak



Zonal 10/15 Year Load Growth



Metropolitan Statistical Areas and Weather Stations



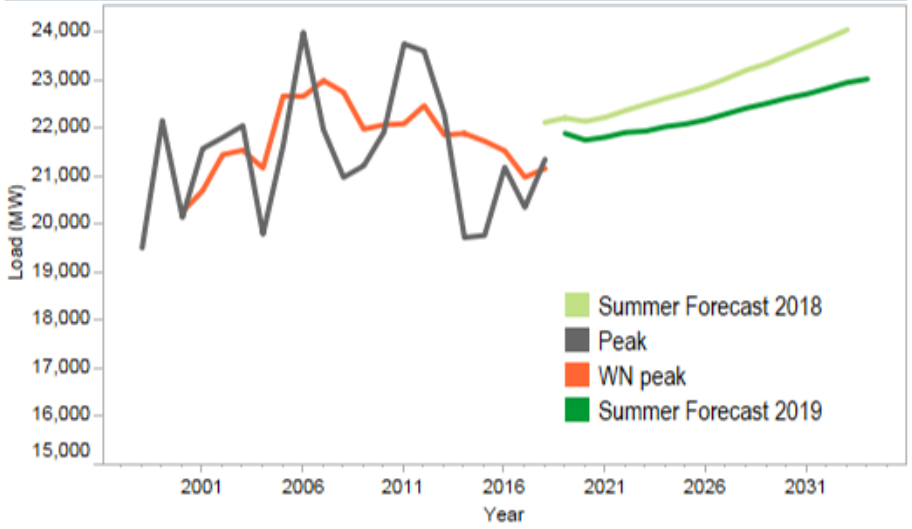
10 Yr Growth
15 Yr Growth

MSA

- Akron, OH Metropolitan Statistical Area
- ATSI - Non-Metro
- Cleveland-Elyria, OH Metropolitan Statistical Area
- Mansfield, OH Metropolitan Statistical Area
- Pittsburgh, PA Metropolitan Statistical Area
- Springfield, OH Metropolitan Statistical Area
- Toledo, OH Metropolitan Statistical Area
- Youngstown-Warren-Boardman, OH-PA MSA

ComEd

Summer Non-Coincident Peak

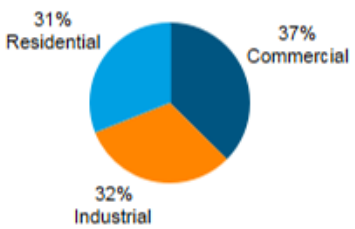


Weather - Annual Average 1993-2017

CDD	HDD	THI	WWP
897	*4,932*	*84*	*-1*

CDD - Cooling Degree Days
HDD - Heating Degree Days
THI - Temperature-Humidity Index
WWP - Wind-Adjusted Temperature

RCI Makeup



LDAs

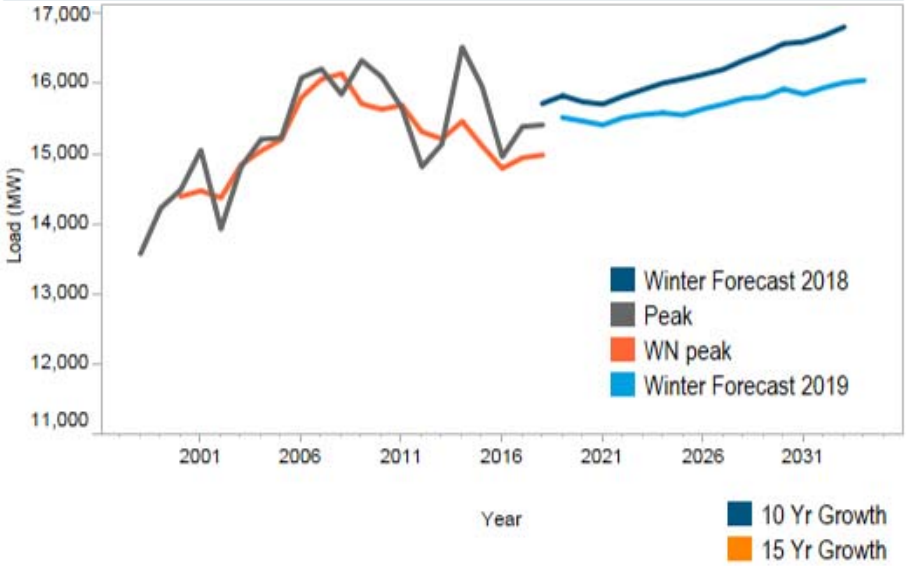
PJM RTO
PJM WESTERN

RROs

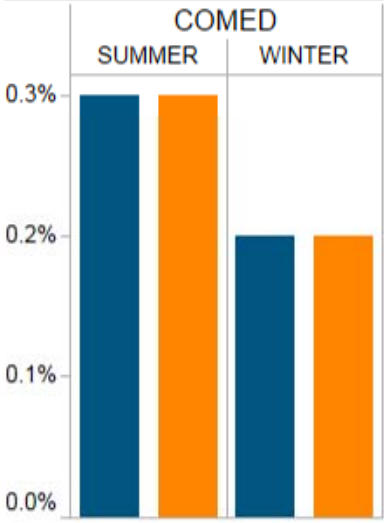
RFC

*Zone boundaries are approximate and do not reflect divided zipcodes
*Weather station marks are sized based on weighting in load forecast

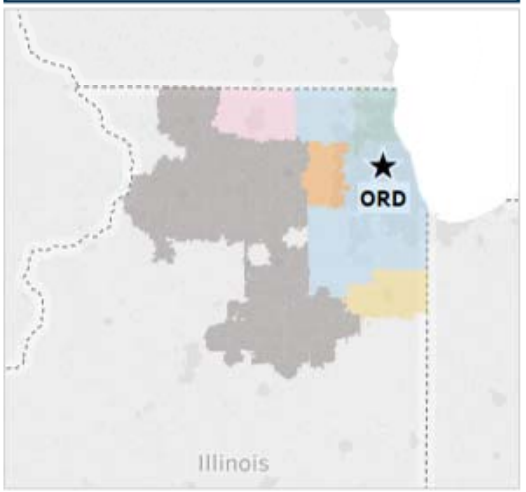
Winter Non-Coincident Peak



Zonal 10/15 Year Load Growth



Metropolitan Statistical Areas and Weather Stations

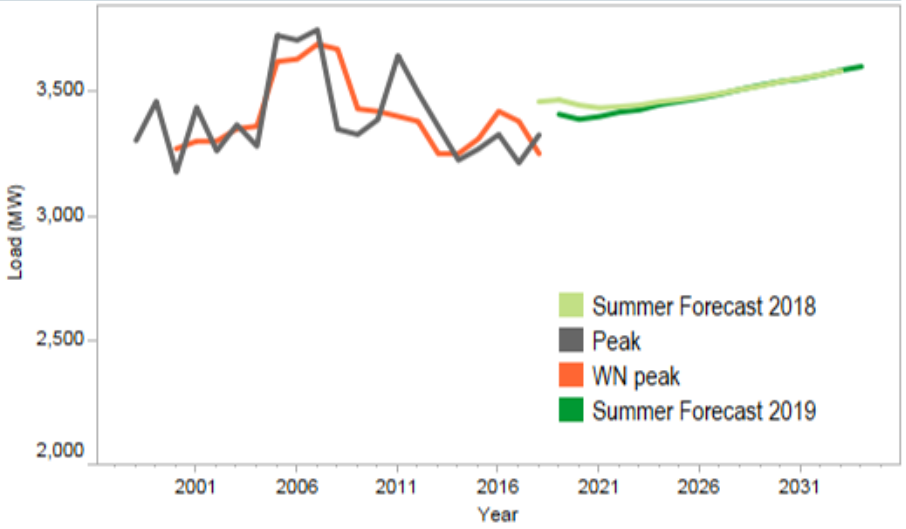


MSA

- Chicago-Naperville-Arlington Heights, IL Me..
- Chicago-Naperville-Elgin, IL-IN-WI MSA
- COMED - Non-Metro
- Kankakee, IL Metropolitan Statistical Area
- Lake County-Kenosha County, IL-WI Metro
- Rockford, IL Metropolitan Statistical Area

Dayton Power and Light (DAYTON)

Summer Non-Coincident Peak

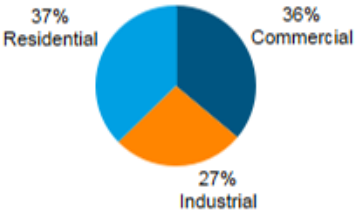


Weather - Annual Average 1993-2017

CDD	HDD	THI	WWP
922	*4,345*	*83*	*3*

CDD - Cooling Degree Days
HDD - Heating Degree Days
THI - Temperature-Humidity Index
WWP - Wind-Adjusted Temperature

RCI Makeup



LDAs

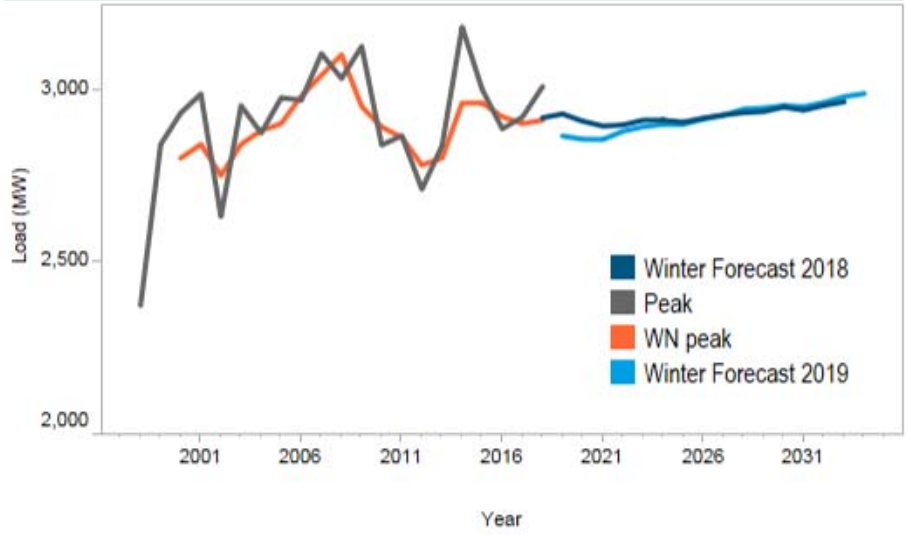
PJM RTO
PJM WESTERN

RROs

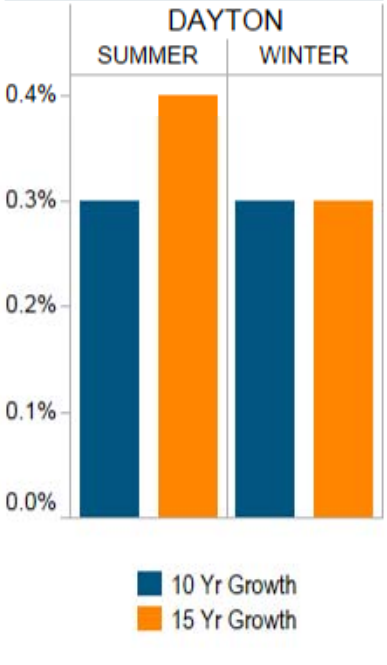
RFC

*Zone boundaries are approximate and do not reflect divided zipcodes
*Weather station marks are sized based on weighting in load forecast

Winter Non-Coincident Peak



Zonal 10/15 Year Load Growth

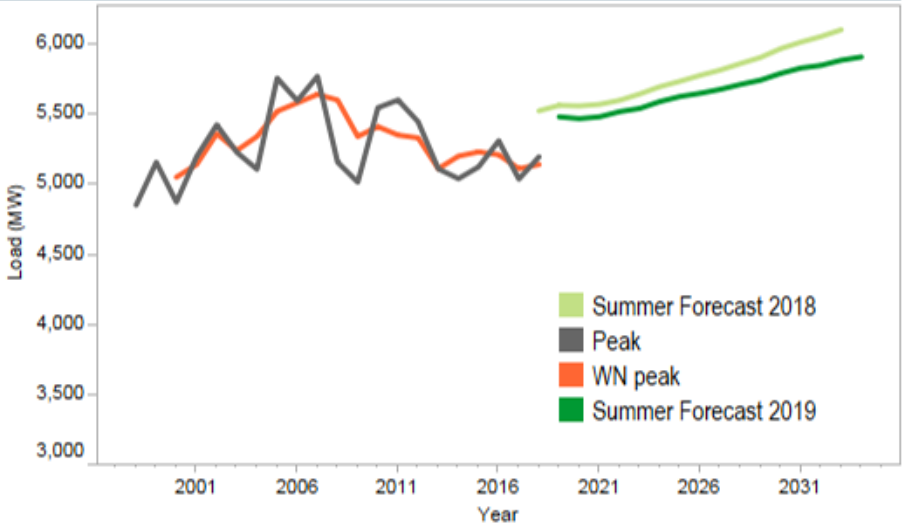


Metropolitan Statistical Areas and Weather Stations

MSA
DAY - Non-Metro
Dayton, OH Metropolitan Statistical Area

Duke Energy Ohio and Kentucky (DEOK)

Summer Non-Coincident Peak

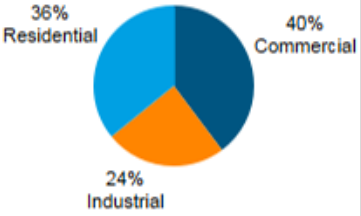


Weather - Annual Average 1993-2017

CDD	HDD	THI	WWP
1,071	*3,821*	*84*	*8*

CDD - Cooling Degree Days
HDD - Heating Degree Days
THI - Temperature-Humidity Index
WWP - Wind-Adjusted Temperature

RCI Makeup



LDAs

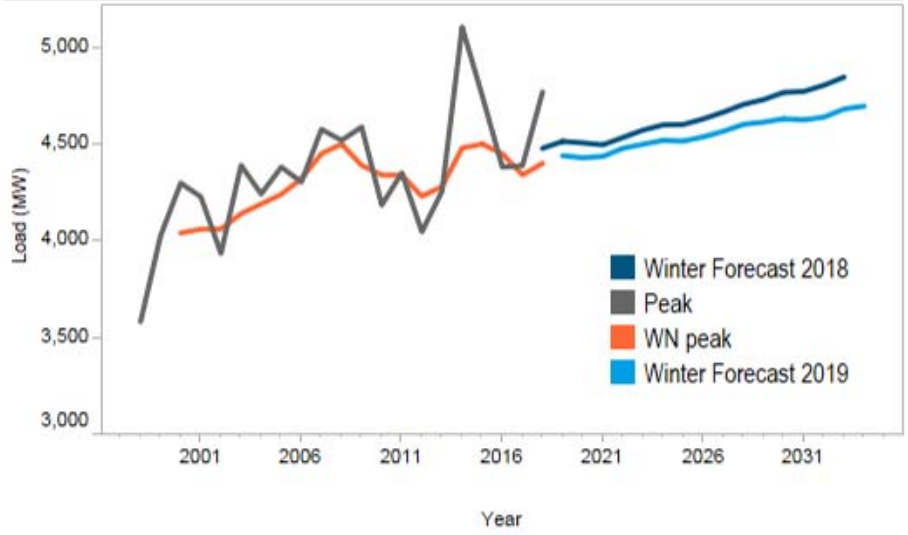
PJM RTO
PJM WESTERN

RROs

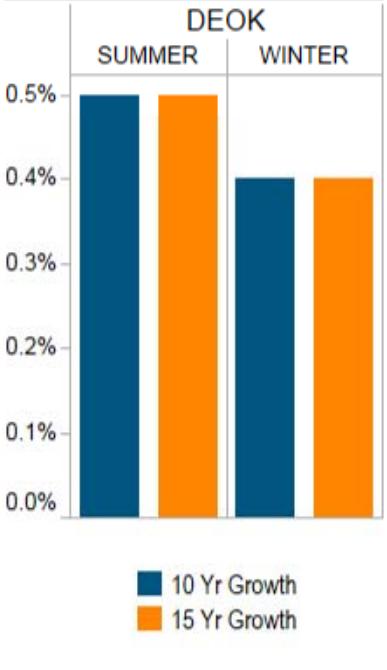
RFC

*Zone boundaries are approximate and do not reflect divided zipcodes
*Weather station marks are sized based on weighting in load forecast

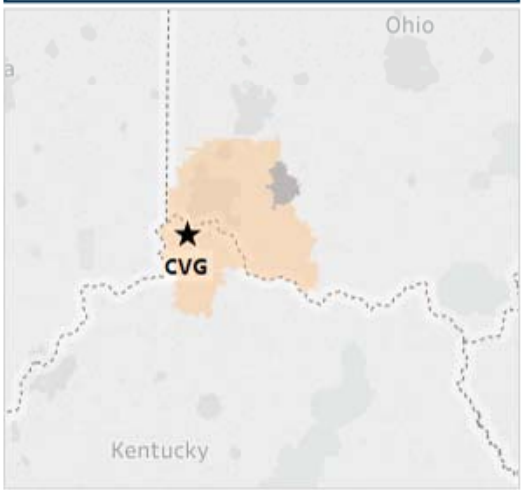
Winter Non-Coincident Peak



Zonal 10/15 Year Load Growth



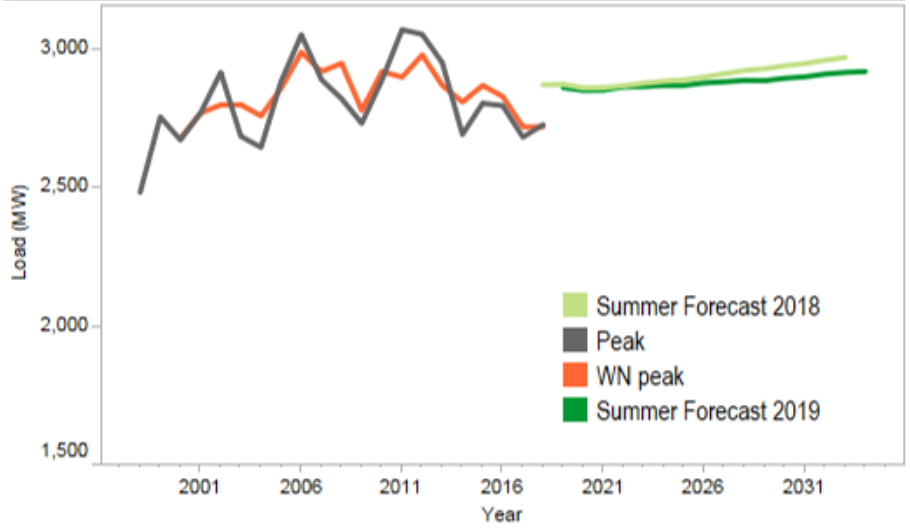
Metropolitan Statistical Areas and Weather Stations



MSA
Cincinnati, OH-KY-IN MSA
DEOK - Non-Metro

Duquesne Light (DLCO)

Summer Non-Coincident Peak

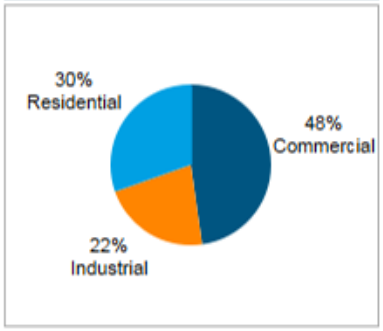


Weather - Annual Average 1993-2017

CDD	HDD	THI	WWP
777	4,356	82	6

CDD - Cooling Degree Days
HDD - Heating Degree Days
THI - Temperature-Humidity Index
WWP - Wind-Adjusted Temperature

RCI Makeup



LDAs

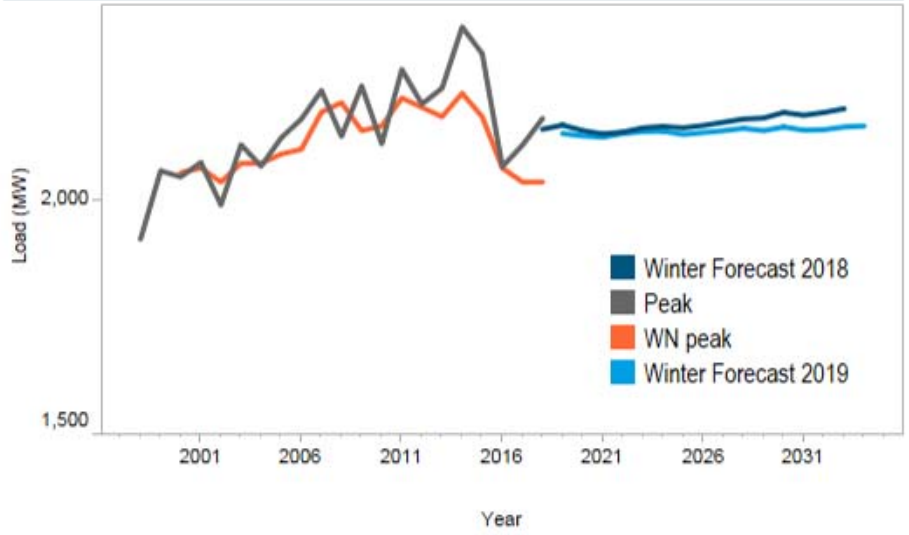
PJM RTO
PJM WESTERN

RROs

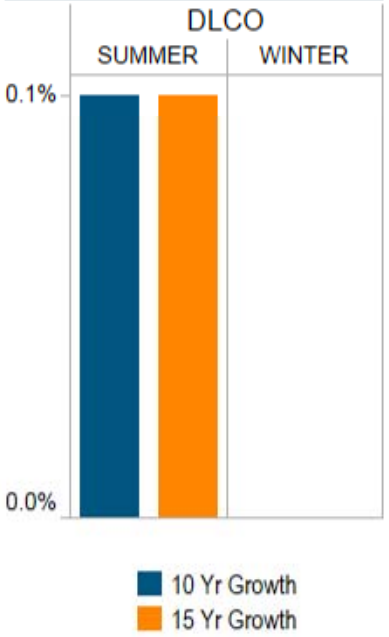
RFC

*Zone boundaries are approximate and do not reflect divided zipcodes
*Weather station marks are sized based on weighting in load forecast

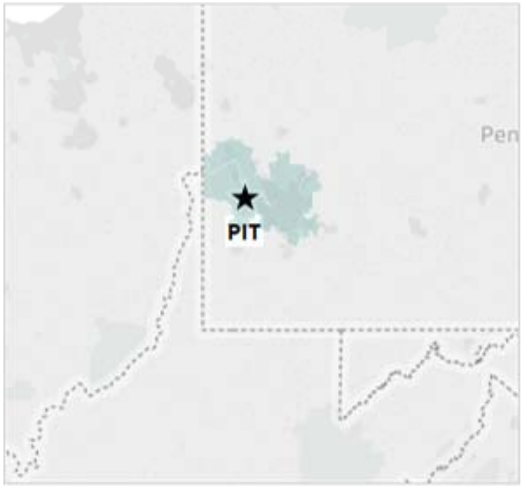
Winter Non-Coincident Peak



Zonal 10/15 Year Load Growth



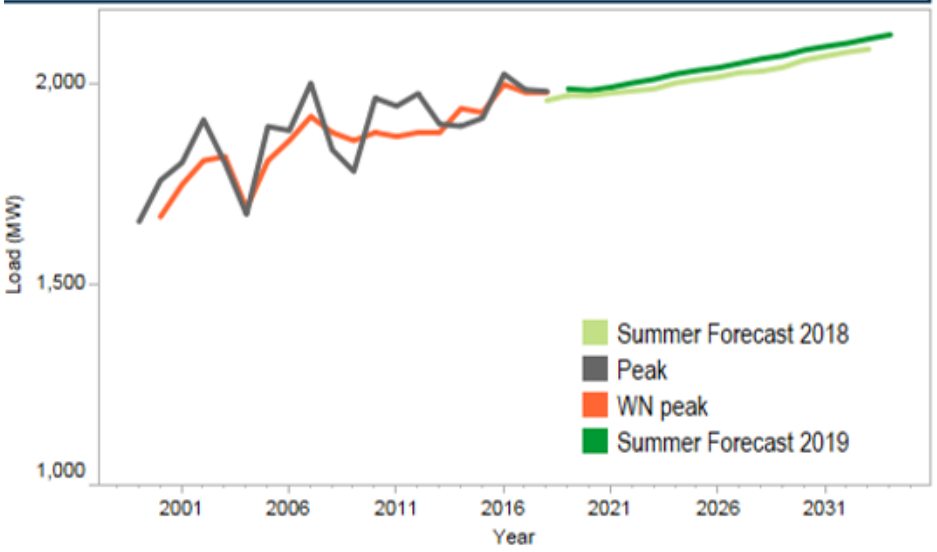
Metropolitan Statistical Areas and Weather Stations



MSA
Pittsburgh, PA Metropolitan Statistical Area

East Kentucky Power Cooperative (EKPC)

Summer Non-Coincident Peak

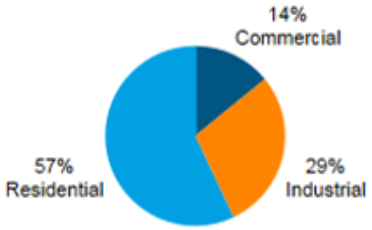


Weather - Annual Average 1993-2017

CDD	HDD	THI	WWP
1,216	3,461	84	12

CDD - Cooling Degree Days
HDD - Heating Degree Days
THI - Temperature-Humidity Index
WWP - Wind-Adjusted Temperature

RCI Makeup



LDAs

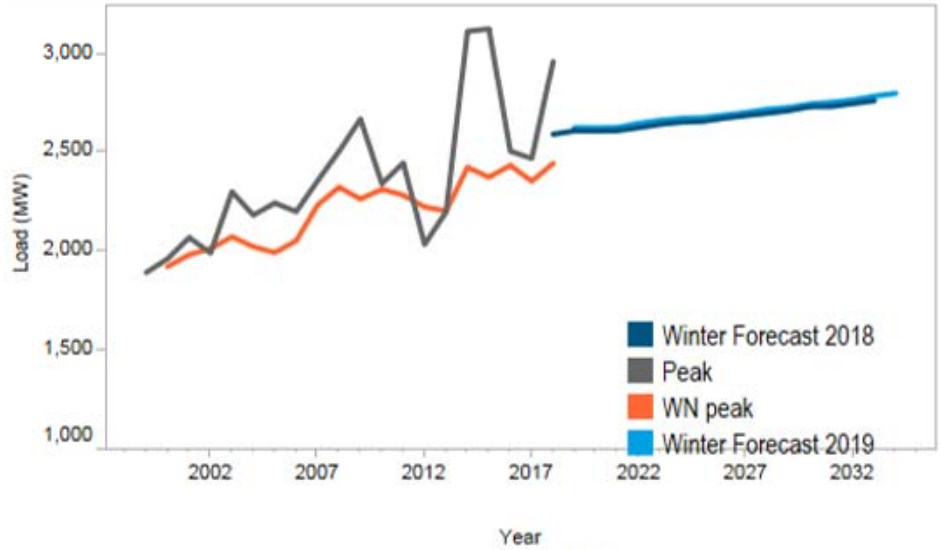
PJM RTO
PJM WESTERN

RROs

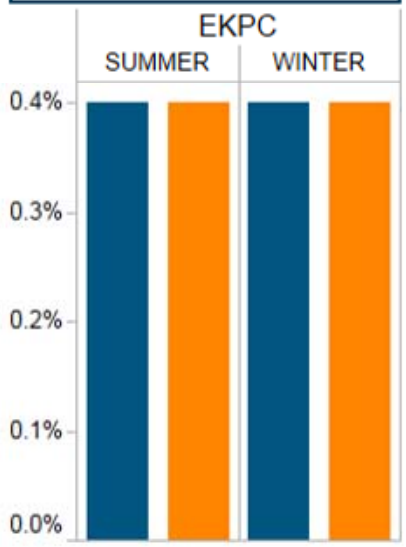
SERC

*Zone boundaries are approximate and do not reflect divided zipcodes
*Weather station marks are sized based on weighting in load forecast

Winter Non-Coincident Peak

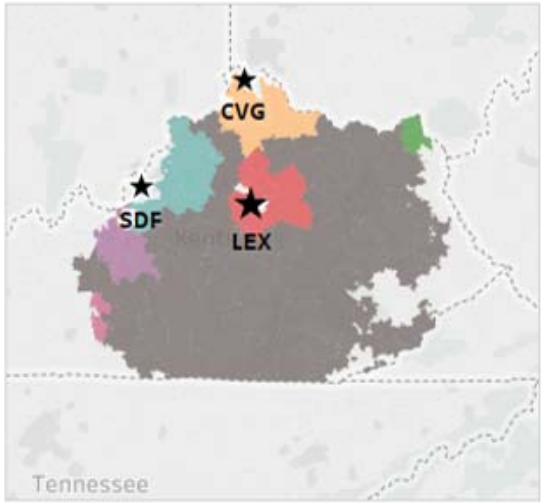


Zonal 10/15 Year Load Growth



10 Yr Growth
15 Yr Growth

Metropolitan Statistical Areas and Weather Stations

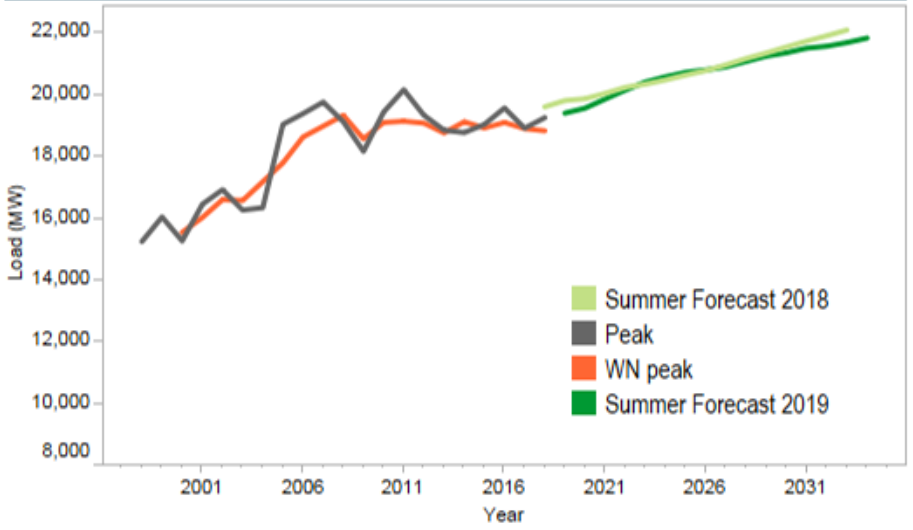


MSA

- Bowling Green, KY MSA
- Cincinnati, OH-KY-IN MSA
- EKPC - Non-Metro
- Elizabethtown-Fort Knox, KY MSA
- Huntington-Ashland, WV-KY-OH MSA
- Lexington-Fayette, KY MSA
- Louisville/Jefferson County, KY-IN MS

Dominion (DOM)

Summer Non-Coincident Peak

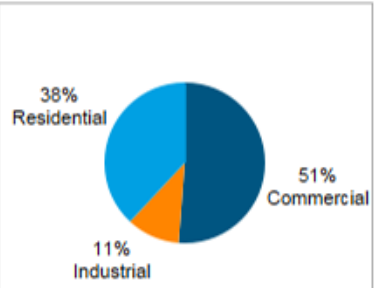


Weather - Annual Average 1993-2017

CDD	HDD	THI	WWP
1,380	*2,787*	*85*	*20*

CDD - Cooling Degree Days
HDD - Heating Degree Days
THI - Temperature-Humidity Index
WWP - Wind-Adjusted Temperature

RCI Makeup



LDAs

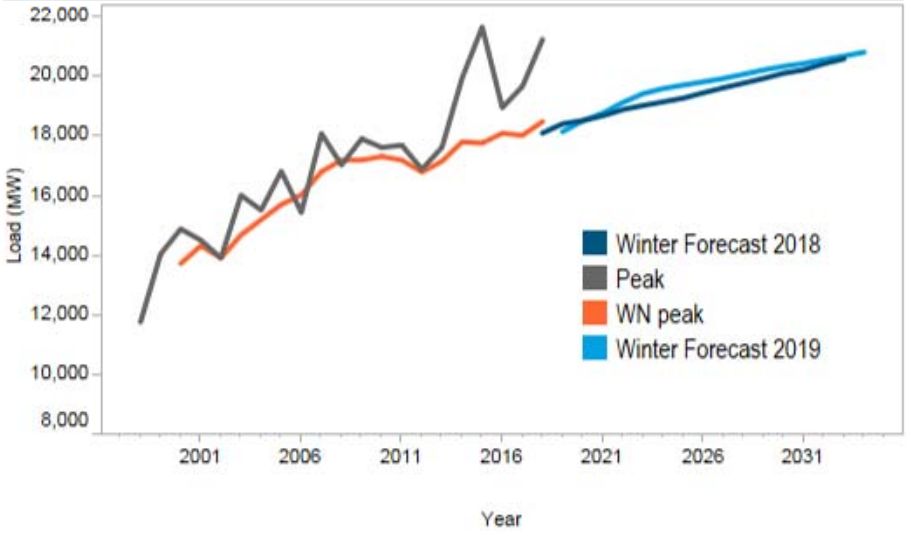
PJM RTO

RROs

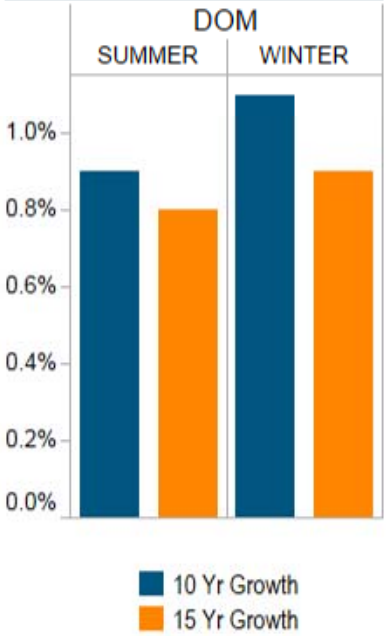
SERC

*Zone boundaries are approximate and do not reflect divided zipcodes
*Weather station marks are sized based on weighting in load forecast

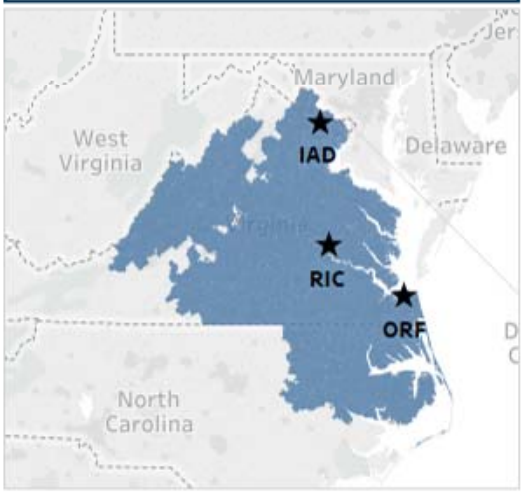
Winter Non-Coincident Peak



Zonal 10/15 Year Load Growth



Metropolitan Statistical Areas and Weather Stations



MSA
Virginia Commonwealth Economics

Table A-1

PJM MID-ATLANTIC REGION
SUMMER PEAK LOAD COMPARISONS OF THE CURRENT FORECAST
TO THE JANUARY 2018 LOAD FORECAST REPORT

INCREASE OR DECREASE OVER PRIOR FORECAST

	2019		2024		2029	
	MW	%	MW	%	MW	%
AE	9	0.4%	8	0.3%	(26)	-1.1%
BGE	(74)	-1.1%	(281)	-4.2%	(355)	-5.2%
DPL	3	0.1%	(48)	-1.2%	(77)	-1.9%
JCPL	21	0.4%	10	0.2%	(83)	-1.4%
METED	(4)	-0.1%	11	0.4%	9	0.3%
PECO	49	0.6%	80	0.9%	53	0.6%
PENLC	(3)	-0.1%	0	0.0%	(16)	-0.5%
PEPCO	3	0.0%	(18)	-0.3%	(64)	-1.0%
PL	(4)	-0.1%	11	0.2%	(38)	-0.5%
PS	54	0.5%	12	0.1%	(155)	-1.6%
RECO	4	1.0%	3	0.8%	0	0.0%
UGI	(1)	-0.5%	1	0.5%	0	0.0%
PJM MID-ATLANTIC	45	0.1%	(303)	-0.5%	(787)	-1.4%
FE-EAST	19	0.2%	17	0.1%	(88)	-0.7%
PLGRP	(3)	-0.0%	12	0.2%	(33)	-0.4%

Table A-1

PJM WESTERN REGION, PJM SOUTHERN REGION AND PJM RTO
SUMMER PEAK LOAD COMPARISONS OF THE CURRENT FORECAST
TO THE JANUARY 2018 LOAD FORECAST REPORT

INCREASE OR DECREASE OVER PRIOR FORECAST

	2019		2024		2029	
	MW	%	MW	%	MW	%
AEP	(35)	-0.2%	0	0.0%	(94)	-0.4%
APS	(189)	-2.1%	(170)	-1.8%	(173)	-1.8%
ATSI	(118)	-0.9%	(135)	-1.0%	(232)	-1.7%
COMED	(323)	-1.5%	(589)	-2.6%	(828)	-3.5%
DAYTON	(58)	-1.7%	(12)	-0.3%	3	0.1%
DEOK	(82)	-1.5%	(106)	-1.9%	(162)	-2.7%
DLCO	(12)	-0.4%	(15)	-0.5%	(43)	-1.5%
EKPC	16	0.8%	22	1.1%	29	1.4%
OVEC	~	~	~	~	~	~
PJM WESTERN	(708)	-0.9%	(927)	-1.1%	(1,364)	-1.6%
DOM	(409)	-2.1%	103	0.5%	(101)	-0.5%
PJM RTO	(1,121)	-0.7%	(1,037)	-0.7%	(2,168)	-1.4%

Table A-2

PJM MID-ATLANTIC REGION
WINTER PEAK LOAD COMPARISONS OF THE CURRENT FORECAST
TO THE JANUARY 2018 LOAD FORECAST REPORT

INCREASE OR DECREASE OVER PRIOR FORECAST

	18/19		23/24		28/29	
	MW	**%**	**MW**	**%**	**MW**	**%**
AE	0	0.0%	17	1.1%	13	0.8%
BGE	(29)	-0.5%	(55)	-0.9%	(54)	-0.9%
DPL	(2)	-0.1%	(3)	-0.1%	(17)	-0.5%
JCPL	(22)	-0.6%	20	0.5%	(3)	-0.1%
METED	(16)	-0.6%	8	0.3%	10	0.4%
PECO	(41)	-0.6%	24	0.4%	35	0.5%
PENLC	(13)	-0.5%	(5)	-0.2%	(17)	-0.6%
PEPCO	(2)	-0.0%	(20)	-0.4%	(63)	-1.1%
PL	11	0.2%	33	0.5%	(1)	-0.0%
PS	19	0.3%	45	0.7%	3	0.0%
RECO	(2)	-0.9%	(1)	-0.4%	(1)	-0.4%
UGI	(1)	-0.5%	2	1.1%	1	0.5%
PJM MID-ATLANTIC	(99)	-0.2%	(12)	-0.0%	(156)	-0.3%
FE-EAST	(23)	-0.3%	33	0.4%	6	0.1%
PLGRP	7	0.1%	31	0.4%	0	0.0%

Table A-2

PJM WESTERN REGION, PJM SOUTHERN REGION AND PJM RTO
WINTER PEAK LOAD COMPARISONS OF THE CURRENT FORECAST
TO THE JANUARY 2018 LOAD FORECAST REPORT

INCREASE OR DECREASE OVER PRIOR FORECAST

	18/19		23/24		28/29	
	MW	**%**	**MW**	**%**	**MW**	**%**
AEP	(154)	-0.7%	(133)	-0.6%	(209)	-0.9%
APS	(206)	-2.3%	(180)	-1.9%	(163)	-1.7%
ATSI	(162)	-1.5%	(168)	-1.6%	(233)	-2.1%
COMED	(310)	-2.0%	(425)	-2.7%	(624)	-3.8%
DAYTON	(64)	-2.2%	(12)	-0.4%	10	0.3%
DEOK	(74)	-1.6%	(80)	-1.7%	(117)	-2.5%
DLCO	(18)	-0.8%	(10)	-0.5%	(27)	-1.2%
EKPC	16	0.6%	19	0.7%	16	0.6%
OVEC	~	~	~	~	~	~
PJM WESTERN	(925)	-1.3%	(965)	-1.4%	(1,171)	-1.6%
DOM	(263)	-1.4%	446	2.3%	285	1.4%
PJM RTO	(1,275)	-1.0%	(553)	-0.4%	(1,021)	-0.7%

Table B-1

SUMMER PEAK LOAD (MW) AND GROWTH RATES FOR EACH PJM MID-ATLANTIC ZONE AND GEOGRAPHIC REGION 2019 - 2029

	METERED 2018	UNRESTRICTED 2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	Annual Growth Rate (10 yr)
AE	2,592	2,592	2,450	2,426	2,398	2,393	2,385	2,398	2,396	2,398	2,385	2,386	2,388	(0.3%)
				-1.0%	-1.2%	-0.2%	-0.3%	0.5%	-0.1%	0.1%	-0.5%	0.0%	0.1%	
BGE	6,627	6,627	6,697	6,689	6,608	6,414	6,409	6,410	6,421	6,413	6,416	6,434	6,446	(0.4%)
				-0.1%	-1.2%	-2.9%	-0.1%	0.0%	0.2%	-0.1%	0.0%	0.3%	0.2%	
DPL	4,003	4,003	3,933	3,905	3,883	3,882	3,878	3,890	3,909	3,921	3,927	3,947	3,962	0.1%
				-0.7%	-0.6%	-0.0%	-0.1%	0.3%	0.5%	0.3%	0.2%	0.5%	0.4%	
JCPL	5,977	5,977	5,914	5,861	5,846	5,844	5,836	5,852	5,861	5,876	5,891	5,891	5,912	(0.0%)
				-0.9%	-0.3%	-0.0%	-0.1%	0.3%	0.2%	0.3%	0.3%	0.0%	0.4%	
METED	3,027	3,027	2,986	2,983	2,998	3,013	3,018	3,053	3,080	3,103	3,121	3,122	3,157	0.6%
				-0.1%	0.5%	0.5%	0.2%	1.2%	0.9%	0.7%	0.6%	0.0%	1.1%	
PECO	8,517	8,517	8,711	8,665	8,710	8,767	8,801	8,858	8,889	8,947	8,980	9,036	9,082	0.4%
				-0.5%	0.5%	0.7%	0.4%	0.6%	0.3%	0.7%	0.4%	0.6%	0.5%	
PENLC	2,998	2,998	2,897	2,889	2,882	2,888	2,888	2,894	2,896	2,905	2,901	2,907	2,908	0.0%
				-0.3%	-0.2%	0.2%	0.0%	0.2%	0.1%	0.3%	-0.1%	0.2%	0.0%	
PEPCO	6,204	6,204	6,466	6,415	6,384	6,379	6,363	6,375	6,374	6,379	6,388	6,399	6,413	(0.1%)
				-0.8%	-0.5%	-0.1%	-0.3%	0.2%	-0.0%	0.1%	0.1%	0.2%	0.2%	
PL	7,129	7,129	7,148	7,135	7,151	7,187	7,185	7,219	7,240	7,276	7,302	7,319	7,347	0.3%
				-0.2%	0.2%	0.5%	-0.0%	0.5%	0.3%	0.5%	0.4%	0.2%	0.4%	
PS	9,884	9,884	9,904	9,809	9,752	9,754	9,738	9,748	9,749	9,757	9,750	9,759	9,753	(0.2%)
				-1.0%	-0.6%	0.0%	-0.2%	0.1%	0.0%	0.1%	-0.1%	0.1%	-0.1%	
RECO	415	415	404	402	401	400	400	400	401	402	403	402	402	(0.0%)
				-0.5%	-0.2%	-0.2%	0.0%	0.0%	0.3%	0.2%	0.2%	-0.2%	0.0%	
UGI	207	207	189	188	188	188	188	188	188	188	189	188	188	(0.1%)
				-0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%	-0.5%	0.0%	
DIVERSITY - MID-ATLANTIC(-)			1,213	1,028	1,131	1,127	1,210	1,285	1,179	1,054	1,173	1,201	1,167	
PJM MID-ATLANTIC	56,722	56,836	56,486	56,339	56,070	55,982	55,879	56,000	56,225	56,511	56,480	56,589	56,791	0.1%
				-0.3%	-0.5%	-0.2%	-0.2%	0.2%	0.4%	0.5%	-0.1%	0.2%	0.4%	
FE-EAST	11,844	11,844	11,517	11,438	11,430	11,477	11,490	11,517	11,556	11,588	11,622	11,672	11,719	0.2%
				-0.7%	-0.1%	0.4%	0.1%	0.2%	0.3%	0.3%	0.3%	0.4%	0.4%	
PLGRP	7,335	7,335	7,286	7,272	7,295	7,329	7,327	7,353	7,393	7,421	7,443	7,460	7,498	0.3%
				-0.2%	0.3%	0.5%	-0.0%	0.4%	0.5%	0.4%	0.3%	0.2%	0.5%	

Notes:
All forecast values are non-coincident as estimated by PJM staff.
All forecast values represent unrestricted peaks, after reductions for distributed solar generation and prior to reductions for load management.
All average growth rates are calculated from the first year of the forecast (2019).
Summer season indicates peak from June, July, August.

Table B-1 (continued)

SUMMER PEAK LOAD (MW) AND GROWTH RATES FOR EACH PJM MID-ATLANTIC ZONE AND GEOGRAPHIC REGION 2030 - 2034

	2030	2031	2032	2033	2034	Annual Growth Rate (15 yr)
AE	2,398	2,398	2,384	2,387	2,387	(0.2%)
	0.4%	0.0%	-0.6%	0.1%	0.0%	
BGE	6,455	6,470	6,469	6,487	6,493	(0.2%)
	0.1%	0.2%	-0.0%	0.3%	0.1%	
DPL	3,982	4,006	4,012	4,032	4,048	0.2%
	0.5%	0.6%	0.1%	0.5%	0.4%	
JCPL	5,920	5,936	5,962	5,975	5,982	0.1%
	0.1%	0.3%	0.4%	0.2%	0.1%	
METED	3,180	3,209	3,230	3,244	3,251	0.6%
	0.7%	0.9%	0.7%	0.4%	0.2%	
PECO	9,154	9,207	9,264	9,330	9,340	0.5%
	0.8%	0.6%	0.6%	0.7%	0.1%	
PENLC	2,917	2,921	2,925	2,930	2,932	0.1%
	0.3%	0.1%	0.1%	0.2%	0.1%	
PEPCO	6,435	6,449	6,461	6,478	6,492	0.0%
	0.3%	0.2%	0.2%	0.3%	0.2%	
PL	7,372	7,397	7,427	7,458	7,476	0.3%
	0.3%	0.3%	0.4%	0.4%	0.2%	
PS	9,751	9,763	9,773	9,807	9,803	(0.1%)
	-0.0%	0.1%	0.1%	0.3%	-0.0%	
RECO	402	404	406	406	406	0.0%
	0.0%	0.5%	0.5%	0.0%	0.0%	
UGI	188	188	189	189	188	(0.0%)
	0.0%	0.0%	0.5%	0.0%	-0.5%	
DIVERSITY - MID-ATLANTIC(-)	1,251	1,207	1,188	1,180	1,167	
PJM MID-ATLANTIC	56,903	57,141	57,314	57,543	57,631	0.1%
	0.2%	0.4%	0.3%	0.4%	0.2%	
FE-EAST	11,748	11,786	11,829	11,891	11,930	0.2%
	0.2%	0.3%	0.4%	0.5%	0.3%	
PLGRP	7,510	7,549	7,573	7,600	7,621	0.3%
	0.2%	0.5%	0.3%	0.4%	0.3%	

Notes:
All forecast values are non-coincident as estimated by PJM staff.
All forecast values represent unrestricted peaks, after reductions for distributed solar generation and prior to reductions for load management.
All average growth rates are calculated from the first year of the forecast (2019).
Summer season indicates peak from June, July, August.

Table B-1

SUMMER PEAK LOAD (MW) AND GROWTH RATES FOR EACH PJM WESTERN AND PJM SOUTHERN ZONE, GEOGRAPHIC REGION AND RTO 2019 - 2029

	METERED 2018	UNRESTRICTED 2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	Annual Growth Rate (10 yr)
AEP	22,250	22,250	22,945	22,873	22,959	23,127	23,231	23,392	23,505	23,646	23,781	23,939	24,072	0.5%
				-0.3%	0.4%	0.7%	0.4%	0.7%	0.5%	0.6%	0.6%	0.7%	0.6%	
APS	8,543	8,543	8,707	8,716	8,958	9,034	9,065	9,124	9,164	9,197	9,231	9,269	9,305	0.7%
				0.1%	2.8%	0.8%	0.3%	0.7%	0.4%	0.4%	0.4%	0.4%	0.4%	
ATSI	12,718	12,728	12,872	12,810	12,831	12,876	12,887	12,954	12,979	13,018	13,064	13,099	13,134	0.2%
				-0.5%	0.2%	0.4%	0.1%	0.5%	0.2%	0.3%	0.4%	0.3%	0.3%	
COMED	21,350	21,350	21,890	21,752	21,813	21,912	21,938	22,033	22,088	22,176	22,297	22,419	22,514	0.3%
				-0.6%	0.3%	0.5%	0.1%	0.4%	0.2%	0.4%	0.5%	0.5%	0.4%	
DAYTON	3,325	3,325	3,408	3,388	3,399	3,417	3,426	3,447	3,460	3,473	3,489	3,508	3,525	0.3%
				-0.6%	0.3%	0.5%	0.3%	0.6%	0.4%	0.4%	0.5%	0.5%	0.5%	
DEOK	5,195	5,195	5,480	5,467	5,480	5,517	5,540	5,589	5,625	5,648	5,676	5,711	5,742	0.5%
				-0.2%	0.2%	0.7%	0.4%	0.9%	0.6%	0.4%	0.5%	0.6%	0.5%	
DLCO	2,728	2,728	2,862	2,852	2,853	2,865	2,866	2,870	2,870	2,879	2,883	2,888	2,887	0.1%
				-0.3%	0.0%	0.4%	0.0%	0.1%	0.0%	0.3%	0.1%	0.2%	-0.0%	
EKPC	1,983	1,983	1,989	1,985	1,993	2,004	2,013	2,026	2,035	2,042	2,053	2,064	2,072	0.4%
				-0.2%	0.4%	0.6%	0.4%	0.6%	0.4%	0.3%	0.5%	0.5%	0.4%	
OVEC	99	99	95	95	95	95	95	95	95	95	95	95	95	0.0%
				0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
DIVERSITY - WESTERN(-)			1,612	1,593	1,524	1,541	1,484	1,616	1,605	1,548	1,555	1,480	1,369	
PJM WESTERN	77,616	77,626	78,636	78,345	78,857	79,306	79,577	79,914	80,216	80,626	81,014	81,512	81,977	0.4%
				-0.4%	0.7%	0.6%	0.3%	0.4%	0.4%	0.5%	0.5%	0.6%	0.6%	
DOM	19,245	19,245	19,391	19,552	19,848	20,137	20,399	20,569	20,714	20,788	20,892	21,066	21,238	0.9%
				0.8%	1.5%	1.5%	1.3%	0.8%	0.7%	0.4%	0.5%	0.8%	0.8%	
DIVERSITY - TOTAL(-)			5,980	5,987	5,883	6,068	5,925	6,176	6,186	6,277	6,244	6,187	6,086	
PJM RTO	150,530	150,565	151,358	150,870	151,547	152,025	152,624	153,208	153,753	154,250	154,870	155,661	156,456	0.3%
				-0.3%	0.4%	0.3%	0.4%	0.4%	0.4%	0.3%	0.4%	0.5%	0.5%	

Notes:
All forecast values are non-coincident as estimated by PJM staff.
All forecast values represent unrestricted peaks, after reductions for distributed solar generation and prior to reductions for load management.
All average growth rates are calculated from the first year of the forecast (2019).
Summer season indicates peak from June, July, August.

Table B-1 (continued)

SUMMER PEAK LOAD (MW) AND GROWTH RATES FOR EACH PJM WESTERN AND PJM SOUTHERN ZONE, GEOGRAPHIC REGION AND RTO 2030 - 2034

	2030	2031	2032	2033	2034	Annual Growth Rate (15 yr)
AEP	24,252	24,374	24,518	24,678	24,815	0.5%
	0.7%	0.5%	0.6%	0.7%	0.6%	
APS	9,352	9,399	9,434	9,481	9,507	0.6%
	0.5%	0.5%	0.4%	0.5%	0.3%	
ATSI	13,205	13,239	13,280	13,331	13,355	0.2%
	0.5%	0.3%	0.3%	0.4%	0.2%	
COMED	22,625	22,710	22,828	22,950	23,021	0.3%
	0.5%	0.4%	0.5%	0.5%	0.3%	
DAYTON	3,540	3,550	3,566	3,585	3,600	0.4%
	0.4%	0.3%	0.5%	0.5%	0.4%	
DEOK	5,790	5,828	5,847	5,884	5,907	0.5%
	0.8%	0.7%	0.3%	0.6%	0.4%	
DLCO	2,896	2,901	2,911	2,917	2,920	0.1%
	0.3%	0.2%	0.3%	0.2%	0.1%	
EKPC	2,086	2,095	2,103	2,114	2,124	0.4%
	0.7%	0.4%	0.4%	0.5%	0.5%	
OVEC	95	95	95	95	95	0.0%
	0.0%	0.0%	0.0%	0.0%	0.0%	
DIVERSITY - WESTERN(-)	1,542	1,638	1,522	1,544	1,429	
PJM WESTERN	82,299	82,553	83,060	83,491	83,915	0.4%
	0.4%	0.3%	0.6%	0.5%	0.5%	
DOM	21,347	21,496	21,559	21,676	21,823	0.8%
	0.5%	0.7%	0.3%	0.5%	0.7%	
DIVERSITY - TOTAL(-)	6,409	6,559	6,548	6,764	6,496	
PJM RTO	156,933	157,476	158,095	158,670	159,469	0.3%
	0.3%	0.3%	0.4%	0.4%	0.5%	

Notes:
All forecast values are non-coincident as estimated by PJM staff.
All forecast values represent unrestricted peaks, after reductions for distributed solar generation and prior to reductions for load management.
All average growth rates are calculated from the first year of the forecast (2019).
Summer season indicates peak from June, July, August.

Table B-2

WINTER PEAK LOAD (MW) AND GROWTH RATES FOR EACH PJM MID-ATLANTIC ZONE AND GEOGRAPHIC REGION 2018/19 - 2028/29

	METERED 17/18	UNRESTRICTED 17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	Annual Growth Rate (10 yr)
AE	1,679	1,679	1,590	1,577	1,565	1,568	1,566	1,562	1,554	1,550	1,550	1,556	1,550	(0.3%)
				-0.8%	-0.8%	0.2%	-0.1%	-0.3%	-0.5%	-0.3%	0.0%	0.4%	-0.4%	
BGE	6,322	6,322	5,872	5,858	5,841	5,860	5,860	5,862	5,862	5,876	5,883	5,905	5,907	0.1%
				-0.2%	-0.3%	0.3%	0.0%	0.0%	0.0%	0.2%	0.1%	0.4%	0.0%	
DPL	3,857	3,857	3,458	3,457	3,459	3,478	3,493	3,506	3,514	3,529	3,552	3,570	3,587	0.4%
				-0.0%	0.1%	0.5%	0.4%	0.4%	0.2%	0.4%	0.7%	0.5%	0.5%	
JCPL	3,815	3,815	3,710	3,675	3,665	3,680	3,681	3,683	3,669	3,671	3,680	3,691	3,690	(0.1%)
				-0.9%	-0.3%	0.4%	0.0%	0.1%	-0.4%	0.1%	0.2%	0.3%	-0.0%	
METED	2,791	2,791	2,615	2,613	2,607	2,630	2,644	2,657	2,664	2,682	2,697	2,715	2,726	0.4%
				-0.1%	-0.2%	0.9%	0.5%	0.5%	0.3%	0.7%	0.6%	0.7%	0.4%	
PECO	7,099	7,099	6,753	6,742	6,738	6,789	6,807	6,822	6,832	6,854	6,880	6,925	6,936	0.3%
				-0.2%	-0.1%	0.8%	0.3%	0.2%	0.1%	0.3%	0.4%	0.7%	0.2%	
PENLC	2,910	2,910	2,866	2,855	2,848	2,859	2,864	2,863	2,856	2,861	2,864	2,867	2,863	(0.0%)
				-0.4%	-0.2%	0.4%	0.2%	-0.0%	-0.2%	0.2%	0.1%	0.1%	-0.1%	
PEPCO	5,731	5,731	5,406	5,412	5,401	5,421	5,430	5,436	5,443	5,458	5,471	5,486	5,495	0.2%
				0.1%	-0.2%	0.4%	0.2%	0.1%	0.1%	0.3%	0.2%	0.3%	0.2%	
PL	7,468	7,468	7,259	7,250	7,229	7,267	7,280	7,294	7,308	7,322	7,343	7,366	7,371	0.2%
				-0.1%	-0.3%	0.5%	0.2%	0.2%	0.2%	0.2%	0.3%	0.3%	0.1%	
PS	7,032	7,032	6,688	6,656	6,609	6,637	6,632	6,639	6,634	6,628	6,632	6,638	6,641	(0.1%)
				-0.5%	-0.7%	0.4%	-0.1%	0.1%	-0.1%	-0.1%	0.1%	0.1%	0.0%	
RECO	226	226	229	227	227	228	228	228	226	227	228	228	228	(0.0%)
				-0.9%	0.0%	0.4%	0.0%	0.0%	-0.9%	0.4%	0.4%	0.0%	0.0%	
UGI	215	215	193	192	192	192	191	191	190	190	190	190	189	(0.2%)
				-0.5%	0.0%	0.0%	-0.5%	0.0%	-0.5%	0.0%	0.0%	0.0%	-0.5%	
DIVERSITY - MID-ATLANTIC(-)			644	706	620	634	610	616	667	650	621	576	621	
PJM MID-ATLANTIC	49,023	49,023	45,995	45,808	45,761	45,975	46,066	46,127	46,085	46,198	46,349	46,561	46,562	0.1%
				-0.4%	-0.1%	0.5%	0.2%	0.1%	-0.1%	0.2%	0.3%	0.5%	0.0%	
FE-EAST	9,507	9,507	9,136	9,092	9,060	9,097	9,122	9,142	9,143	9,165	9,177	9,207	9,233	0.1%
				-0.5%	-0.4%	0.4%	0.3%	0.2%	0.0%	0.2%	0.1%	0.3%	0.3%	
PLGRP	7,682	7,682	7,431	7,419	7,397	7,439	7,448	7,469	7,483	7,497	7,512	7,535	7,547	0.2%
				-0.2%	-0.3%	0.6%	0.1%	0.3%	0.2%	0.2%	0.2%	0.3%	0.2%	

Notes:
All forecast values are non-coincident as estimated by PJM staff.
All forecast values represent unrestricted peaks, after reductions for distributed solar generation and prior to reductions for load management.
All average growth rates are calculated from the first year of the forecast (2018/19).
Winter season indicates peak from December, January, February.

Table B-2 (Continued)

WINTER PEAK LOAD (MW) AND GROWTH RATES FOR EACH PJM MID-ATLANTIC ZONE AND GEOGRAPHIC REGION 2029/30 - 2033/34

	29/30	30/31	31/32	32/33	33/34	Annual Growth Rate (15 yr)
AE	1,554	1,542	1,539	1,546	1,546	(0.2%)
	0.3%	-0.8%	-0.2%	0.5%	0.0%	
BGE	5,914	5,915	5,927	5,945	5,946	0.1%
	0.1%	0.0%	0.2%	0.3%	0.0%	
DPL	3,606	3,619	3,636	3,657	3,677	0.4%
	0.5%	0.4%	0.5%	0.6%	0.5%	
JCPL	3,702	3,672	3,686	3,705	3,706	(0.0%)
	0.3%	-0.8%	0.4%	0.5%	0.0%	
METED	2,744	2,744	2,760	2,778	2,790	0.4%
	0.7%	0.0%	0.6%	0.7%	0.4%	
PECO	6,957	6,960	6,980	7,018	7,032	0.3%
	0.3%	0.0%	0.3%	0.5%	0.2%	
PENLC	2,880	2,867	2,870	2,877	2,880	0.0%
	0.6%	-0.5%	0.1%	0.2%	0.1%	
PEPCO	5,509	5,516	5,528	5,545	5,555	0.2%
	0.3%	0.1%	0.2%	0.3%	0.2%	
PL	7,384	7,388	7,403	7,427	7,428	0.2%
	0.2%	0.1%	0.2%	0.3%	0.0%	
PS	6,646	6,635	6,626	6,643	6,640	(0.0%)
	0.1%	-0.2%	-0.1%	0.3%	-0.0%	
RECO	230	227	227	229	229	0.0%
	0.9%	-1.3%	0.0%	0.9%	0.0%	
UGI	189	188	188	188	188	(0.2%)
	0.0%	-0.5%	0.0%	0.0%	0.0%	
DIVERSITY - MID-ATLANTIC(-)	609	700	663	611	549	
PJM MID-ATLANTIC	46,706	46,573	46,707	46,947	47,068	0.2%
	0.3%	-0.3%	0.3%	0.5%	0.3%	
FE-EAST	9,260	9,241	9,265	9,289	9,318	0.1%
	0.3%	-0.2%	0.3%	0.3%	0.3%	
PLGRP	7,546	7,559	7,573	7,592	7,594	0.1%
	-0.0%	0.2%	0.2%	0.3%	0.0%	

Notes:
All forecast values are non-coincident as estimated by PJM staff.
All forecast values represent unrestricted peaks, after reductions for distributed solar generation and prior to reductions for load management.
All average growth rates are calculated from the first year of the forecast (2018/19).
Winter season indicates peak from December, January, February.

Table B-2

WINTER PEAK LOAD (MW) AND GROWTH RATES FOR
EACH PJM WESTERN AND PJM SOUTHERN ZONE, GEOGRAPHIC REGION AND RTO
2018/19 - 2028/29

	METERED 17/18	UNRESTRICTED 17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	Annual Growth Rate (10 yr)
AEP	22,751	22,751	22,485	22,469	22,451	22,670	22,801	22,935	23,030	23,153	23,268	23,431	23,541	0.5%
				-0.1%	-0.1%	1.0%	0.6%	0.6%	0.4%	0.5%	0.5%	0.7%	0.5%	
APS	9,343	9,351	8,721	8,773	8,994	9,092	9,149	9,214	9,245	9,289	9,329	9,382	9,413	0.8%
				0.6%	2.5%	1.1%	0.6%	0.7%	0.3%	0.5%	0.4%	0.6%	0.3%	
ATSI	10,653	10,654	10,601	10,551	10,532	10,586	10,640	10,662	10,651	10,679	10,693	10,748	10,729	0.1%
				-0.5%	-0.2%	0.5%	0.5%	0.2%	-0.1%	0.3%	0.1%	0.5%	-0.2%	
COMED	15,408	15,408	15,515	15,463	15,408	15,511	15,555	15,580	15,550	15,638	15,705	15,785	15,806	0.2%
				-0.3%	-0.4%	0.7%	0.3%	0.2%	-0.2%	0.6%	0.4%	0.5%	0.1%	
DAYTON	3,007	3,007	2,864	2,855	2,854	2,878	2,891	2,898	2,898	2,913	2,924	2,942	2,945	0.3%
				-0.3%	-0.0%	0.8%	0.5%	0.2%	0.0%	0.5%	0.4%	0.6%	0.1%	
DEOK	4,769	4,769	4,440	4,429	4,436	4,478	4,499	4,519	4,515	4,537	4,566	4,602	4,613	0.4%
				-0.2%	0.2%	0.9%	0.5%	0.4%	-0.1%	0.5%	0.6%	0.8%	0.2%	
DLCO	2,176	2,176	2,144	2,139	2,136	2,144	2,148	2,149	2,142	2,146	2,150	2,155	2,150	0.0%
				-0.2%	-0.1%	0.4%	0.2%	0.0%	-0.3%	0.2%	0.2%	0.2%	-0.2%	
EKPC	2,958	2,958	2,620	2,619	2,621	2,642	2,657	2,667	2,671	2,683	2,696	2,713	2,722	0.4%
				-0.0%	0.1%	0.8%	0.6%	0.4%	0.1%	0.4%	0.5%	0.6%	0.3%	
OVEC	121	121	125	125	125	125	125	125	125	125	125	125	125	0.0%
				0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
DIVERSITY - WESTERN(-)			1,476	1,440	1,452	1,417	1,522	1,483	1,352	1,451	1,441	1,467	1,404	
PJM WESTERN	69,030	69,031	68,039	67,983	68,105	68,709	68,943	69,266	69,475	69,712	70,015	70,416	70,640	0.4%
				-0.1%	0.2%	0.9%	0.3%	0.5%	0.3%	0.3%	0.4%	0.6%	0.3%	
DOM	21,233	21,233	18,144	18,503	18,763	19,123	19,419	19,588	19,703	19,814	19,926	20,067	20,212	1.1%
				2.0%	1.4%	1.9%	1.5%	0.9%	0.6%	0.6%	0.6%	0.7%	0.7%	
DIVERSITY - TOTAL(-)			3,216	3,292	3,041	3,189	3,302	3,198	3,191	3,228	3,216	3,261	3,261	
PJM RTO	137,203	137,212	131,082	131,148	131,660	132,669	133,258	133,882	134,091	134,597	135,136	135,826	136,178	0.4%
				0.1%	0.4%	0.8%	0.4%	0.5%	0.2%	0.4%	0.4%	0.5%	0.3%	

Notes:
All forecast values are non-coincident as estimated by PJM staff.
All forecast values represent unrestricted peaks, after reductions for distributed solar generation and prior to reductions for load management.
All average growth rates are calculated from the first year of the forecast (2018/19).
Winter season indicates peak from December, January, February.

Table B-2 (Continued)

WINTER PEAK LOAD (MW) AND GROWTH RATES FOR EACH PJM WESTERN AND PJM SOUTHERN ZONE, GEOGRAPHIC REGION AND RTO 2029/30 - 2033/34

	29/30	30/31	31/32	32/33	33/34	Annual Growth Rate (15 yr)
AEP	23,683	23,741	23,849	24,000	24,107	0.5%
	0.6%	0.2%	0.5%	0.6%	0.4%	
APS	9,484	9,490	9,540	9,587	9,625	0.7%
	0.8%	0.1%	0.5%	0.5%	0.4%	
ATSI	10,834	10,789	10,803	10,851	10,888	0.2%
	1.0%	-0.4%	0.1%	0.4%	0.3%	
COMED	15,922	15,846	15,939	16,013	16,043	0.2%
	0.7%	-0.5%	0.6%	0.5%	0.2%	
DAYTON	2,952	2,949	2,961	2,978	2,987	0.3%
	0.2%	-0.1%	0.4%	0.6%	0.3%	
DEOK	4,631	4,625	4,639	4,681	4,696	0.4%
	0.4%	-0.1%	0.3%	0.9%	0.3%	
DLCO	2,158	2,151	2,152	2,158	2,160	0.0%
	0.4%	-0.3%	0.0%	0.3%	0.1%	
EKPC	2,739	2,748	2,760	2,779	2,793	0.4%
	0.6%	0.3%	0.4%	0.7%	0.5%	
OVEC	125	125	125	125	125	0.0%
	0.0%	0.0%	0.0%	0.0%	0.0%	
DIVERSITY - WESTERN(-)	1,623	1,465	1,546	1,553	1,534	
PJM WESTERN	70,905	70,999	71,222	71,619	71,890	0.4%
	0.4%	0.1%	0.3%	0.6%	0.4%	
DOM	20,333	20,430	20,554	20,679	20,807	0.9%
	0.6%	0.5%	0.6%	0.6%	0.6%	
DIVERSITY - TOTAL(-)	3,298	3,370	3,412	3,301	3,410	
PJM RTO	136,878	136,797	137,280	138,108	138,438	0.4%
	0.5%	-0.1%	0.4%	0.6%	0.2%	

Notes:
All forecast values are non-coincident as estimated by PJM staff.
All forecast values represent unrestricted peaks, after reductions for distributed solar generation and prior to reductions for load management.
All average growth rates are calculated from the first year of the forecast (2018/19).
Winter season indicates peak from December, January, February.

Table B-3

SPRING PEAK LOAD (MW) FOR
EACH PJM MID-ATLANTIC ZONE AND GEOGRAPHIC REGION
2019 - 2034

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
AE	1,660	1,632	1,622	1,622	1,620	1,620	1,615	1,610	1,610	1,616	1,616	1,615	1,606	1,603	1,601	1,604
BGE	5,395	5,357	5,352	5,338	5,341	5,341	5,339	5,342	5,360	5,364	5,372	5,382	5,381	5,399	5,387	5,394
DPL	3,024	2,998	3,002	3,022	3,036	3,021	3,018	3,037	3,055	3,093	3,105	3,106	3,098	3,119	3,144	3,168
JCPL	4,202	4,142	4,121	4,133	4,149	4,155	4,151	4,142	4,147	4,183	4,190	4,198	4,187	4,178	4,208	4,229
METED	2,459	2,442	2,449	2,474	2,491	2,497	2,510	2,520	2,537	2,567	2,581	2,595	2,598	2,600	2,639	2,659
PECO	6,790	6,699	6,713	6,825	6,878	6,907	6,921	6,902	6,928	7,056	7,099	7,126	7,132	7,114	7,216	7,263
PENLC	2,630	2,631	2,628	2,630	2,626	2,622	2,626	2,627	2,634	2,625	2,621	2,620	2,618	2,628	2,621	2,612
PEPCO	5,232	5,148	5,126	5,147	5,168	5,183	5,159	5,133	5,142	5,199	5,226	5,243	5,217	5,195	5,225	5,256
PL	6,390	6,393	6,411	6,442	6,440	6,448	6,491	6,512	6,542	6,519	6,531	6,532	6,570	6,603	6,592	6,581
PS	7,632	7,496	7,507	7,507	7,522	7,521	7,505	7,467	7,499	7,529	7,521	7,523	7,487	7,497	7,484	7,525
RECO	300	294	294	295	297	297	297	293	294	298	298	299	298	296	299	299
UGI	168	167	167	167	166	166	166	166	166	165	164	163	163	163	163	162
DIVERSITY - MID-ATLANTIC(-)	2,622	3,012	3,274	2,724	2,634	2,639	2,861	2,973	3,202	2,506	2,426	2,516	2,681	3,062	2,465	2,305
PJM MID-ATLANTIC	43,260	42,387	42,118	42,878	43,100	43,139	42,937	42,778	42,712	43,708	43,898	43,886	43,674	43,333	44,114	44,447
FE-EAST	8,723	8,503	8,485	8,660	8,710	8,727	8,700	8,635	8,666	8,854	8,893	8,903	8,868	8,836	8,955	9,023
PLGRP	6,414	6,391	6,392	6,438	6,455	6,469	6,484	6,508	6,526	6,546	6,568	6,564	6,572	6,594	6,612	6,622

Notes:
All forecast values represent unrestricted peaks, after reductions for distributed solar generation and prior to reductions for load management.
Spring season indicates peak from March, April, May.

Table B-3

SPRING PEAK LOAD (MW) FOR
EACH PJM WESTERN AND PJM SOUTHERN ZONE, GEOGRAPHIC REGION AND RTO
2019 - 2034

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
AEP	20,295	20,290	20,418	20,572	20,595	20,695	20,874	20,995	21,159	21,127	21,261	21,340	21,515	21,669	21,710	21,741
APS	7,757	7,820	8,095	8,163	8,195	8,226	8,298	8,335	8,402	8,384	8,419	8,439	8,501	8,570	8,571	8,580
ATSI	10,462	10,267	10,245	10,462	10,501	10,529	10,528	10,451	10,423	10,652	10,709	10,728	10,705	10,563	10,789	10,820
COMED	16,790	16,473	16,478	16,692	16,765	16,934	16,794	16,828	16,932	17,180	17,314	17,390	17,241	17,336	17,512	17,636
DAYTON	2,758	2,727	2,733	2,767	2,782	2,791	2,800	2,801	2,810	2,846	2,858	2,870	2,870	2,869	2,898	2,911
DEOK	4,455	4,405	4,411	4,484	4,511	4,538	4,538	4,554	4,573	4,643	4,677	4,703	4,688	4,699	4,758	4,784
DLCO	2,354	2,326	2,324	2,352	2,358	2,359	2,356	2,341	2,344	2,371	2,375	2,376	2,372	2,358	2,381	2,384
EKPC	2,069	2,071	2,103	2,111	2,115	2,110	2,130	2,149	2,163	2,145	2,158	2,163	2,185	2,198	2,195	2,198
OVEC	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125
DIVERSITY - WESTERN(-)	4,633	4,829	4,949	4,805	4,802	4,888	4,965	4,955	5,102	5,073	5,094	5,235	5,232	5,213	5,279	5,261
PJM WESTERN	62,432	61,675	61,983	62,923	63,145	63,419	63,478	63,624	63,829	64,400	64,802	64,899	64,970	65,174	65,660	65,918
DOM	17,236	17,501	17,822	17,911	18,112	18,477	18,610	18,709	18,852	18,701	19,051	19,164	19,262	19,340	19,275	19,352
DIVERSITY - TOTAL(-)	11,141	11,463	11,837	11,352	11,176	11,704	11,811	11,716	12,020	11,461	11,668	11,870	11,949	12,120	11,474	11,324
PJM RTO	119,042	117,941	118,309	119,889	120,617	120,858	121,040	121,323	121,677	122,927	123,603	123,830	123,870	124,002	125,319	125,959

Notes:
All forecast values represent unrestricted peaks, after reductions for distributed solar generation and prior to reductions for load management.
Spring season indicates peak from March, April, May.

Table B-4

FALL PEAK LOAD (MW) FOR
EACH PJM MID-ATLANTIC ZONE AND GEOGRAPHIC REGION
2019 - 2034

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
AE	1,926	1,919	1,911	1,909	1,900	1,900	1,912	1,912	1,912	1,905	1,896	1,906	1,921	1,922	1,920	1,918
BGE	5,770	5,751	5,721	5,692	5,671	5,718	5,751	5,759	5,749	5,711	5,706	5,776	5,818	5,807	5,782	5,788
DPL	3,293	3,277	3,278	3,294	3,290	3,306	3,324	3,336	3,352	3,361	3,367	3,403	3,428	3,444	3,459	3,467
JCPL	4,556	4,546	4,530	4,535	4,523	4,543	4,580	4,587	4,591	4,577	4,577	4,617	4,657	4,663	4,668	4,675
METED	2,551	2,546	2,555	2,576	2,584	2,611	2,637	2,652	2,663	2,678	2,692	2,720	2,749	2,755	2,775	2,789
PECO	7,301	7,291	7,317	7,378	7,378	7,442	7,506	7,540	7,568	7,583	7,611	7,694	7,759	7,787	7,818	7,846
PENLC	2,624	2,615	2,620	2,631	2,626	2,627	2,633	2,632	2,637	2,639	2,621	2,634	2,655	2,653	2,657	2,646
PEPCO	5,550	5,532	5,521	5,521	5,495	5,526	5,548	5,555	5,563	5,543	5,533	5,595	5,625	5,632	5,642	5,636
PL	6,267	6,235	6,244	6,287	6,293	6,312	6,336	6,352	6,376	6,398	6,400	6,446	6,471	6,491	6,521	6,539
PS	8,193	8,141	8,125	8,147	8,106	8,151	8,171	8,171	8,178	8,148	8,130	8,204	8,236	8,239	8,255	8,244
RECO	320	319	318	319	318	319	320	320	321	320	319	322	324	324	324	325
UGI	162	161	161	161	161	160	161	161	161	161	160	161	161	160	160	160
DIVERSITY - MID-ATLANTIC(-)	1,303	1,142	1,282	1,416	1,268	1,297	1,219	1,113	1,228	1,263	1,040	1,290	1,247	1,191	1,352	1,311
PJM MID-ATLANTIC	47,210	47,191	47,019	47,034	47,077	47,318	47,660	47,864	47,843	47,761	47,972	48,188	48,557	48,686	48,629	48,722
FE-EAST	9,431	9,448	9,421	9,425	9,407	9,479	9,556	9,616	9,604	9,570	9,614	9,679	9,765	9,790	9,798	9,797
PLGRP	6,383	6,352	6,356	6,388	6,407	6,426	6,440	6,462	6,478	6,510	6,536	6,551	6,569	6,589	6,615	6,635

Notes:
All forecast values represent unrestricted peaks, after reductions for distributed solar generation and prior to reductions for load management.
Fall season indicates peak from September, October, November.

Table B-4

FALL PEAK LOAD (MW) FOR
EACH PJM WESTERN AND PJM SOUTHERN ZONE, GEOGRAPHIC REGION AND RTO
2019 - 2034

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
AEP	20,626	20,647	20,719	20,874	20,916	21,086	21,303	21,433	21,497	21,567	21,638	21,887	22,117	22,188	22,308	22,399
APS	7,705	7,744	7,998	8,076	8,093	8,162	8,217	8,252	8,285	8,307	8,321	8,400	8,446	8,492	8,531	8,540
ATSI	11,222	11,309	11,329	11,348	11,248	11,332	11,484	11,520	11,548	11,456	11,374	11,574	11,721	11,739	11,738	11,729
COMED	18,205	18,303	18,340	18,398	18,326	18,397	18,611	18,740	18,823	18,782	18,741	18,948	19,189	19,312	19,358	19,350
DAYTON	2,961	2,962	2,970	2,989	2,984	3,003	3,034	3,047	3,059	3,056	3,061	3,089	3,117	3,129	3,141	3,141
DEOK	4,821	4,846	4,872	4,906	4,909	4,926	4,996	5,022	5,052	5,056	5,039	5,107	5,177	5,205	5,222	5,235
DLCO	2,500	2,508	2,501	2,510	2,506	2,511	2,530	2,536	2,533	2,526	2,508	2,536	2,558	2,560	2,555	2,557
EKPC	1,919	1,921	1,932	1,952	1,976	1,958	1,967	1,979	1,987	2,019	2,020	2,012	2,025	2,033	2,046	2,079
OVEC	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90
DIVERSITY - WESTERN(-)	2,231	2,029	2,046	2,073	2,227	2,320	2,320	2,089	2,115	2,304	1,932	2,463	2,400	2,178	2,132	2,514
PJM WESTERN	67,818	68,301	68,705	69,070	68,821	69,145	69,912	70,530	70,759	70,555	70,860	71,180	72,040	72,570	72,857	72,606
DOM	17,657	17,874	18,162	18,434	18,759	18,981	19,108	19,173	19,203	19,349	19,461	19,652	19,750	19,769	19,834	19,951
DIVERSITY - TOTAL(-)	8,188	6,645	6,711	7,246	7,897	8,295	7,367	6,663	6,740	7,835	7,798	8,466	7,542	6,789	7,275	7,911
PJM RTO	128,031	129,892	130,503	130,781	130,255	130,766	132,852	134,106	134,408	133,397	133,467	134,307	136,452	137,605	137,529	137,193

Notes:
All forecast values represent unrestricted peaks, after reductions for distributed solar generation and prior to reductions for load management.
Fall season indicates peak from September, October, November.

Table B-5

MONTHLY PEAK FORECAST (MW) FOR
EACH PJM MID-ATLANTIC ZONE AND GEOGRAPHIC REGION

	AE	BGE	DPL	JCPL	METED	PECO	PENLC	PEPCO	PL	PS	RECO	UGI	MID-ATLANTIC DIVERSITY	PJM MID-ATLANTIC
Jan 2019	1,590	5,872	3,458	3,698	2,615	6,753	2,866	5,406	7,259	6,688	223	193	626	45,995
Feb 2019	1,531	5,520	3,325	3,610	2,528	6,494	2,834	5,114	6,917	6,531	215	185	579	44,225
Mar 2019	1,301	4,955	2,930	3,083	2,357	5,882	2,630	4,580	6,390	5,775	200	168	1,702	38,549
Apr 2019	1,254	4,541	2,690	3,057	2,181	5,599	2,442	4,340	5,745	6,444	223	148	3,071	35,593
May 2019	1,660	5,395	3,024	4,202	2,459	6,790	2,475	5,232	6,032	7,632	300	153	2,094	43,260
Jun 2019	2,158	6,218	3,614	5,361	2,817	8,209	2,773	6,035	6,671	9,219	372	173	868	52,752
Jul 2019	2,450	6,697	3,933	5,914	2,986	8,711	2,897	6,466	7,148	9,904	404	189	1,213	56,486
Aug 2019	2,325	6,446	3,747	5,392	2,871	8,246	2,783	6,192	6,766	9,202	367	174	1,377	53,134
Sep 2019	1,926	5,770	3,293	4,556	2,551	7,301	2,624	5,550	6,267	8,193	320	162	1,303	47,210
Oct 2019	1,401	4,561	2,690	3,348	2,144	5,805	2,426	4,437	5,639	6,734	244	146	2,318	37,257
Nov 2019	1,326	4,656	2,662	3,115	2,200	5,725	2,518	4,329	5,962	5,835	208	159	636	38,059
Dec 2019	1,563	5,407	3,180	3,675	2,507	6,491	2,785	4,974	6,792	6,614	227	187	573	43,829

	AE	BGE	DPL	JCPL	METED	PECO	PENLC	PEPCO	PL	PS	RECO	UGI	DIVERSITY	MID-ATLANTIC
Jan 2020	1,577	5,858	3,457	3,674	2,613	6,742	2,855	5,412	7,250	6,656	223	192	701	45,808
Feb 2020	1,514	5,502	3,287	3,569	2,516	6,440	2,805	5,088	6,894	6,487	214	182	795	43,703
Mar 2020	1,291	4,969	2,949	3,070	2,379	5,885	2,631	4,612	6,393	5,773	199	167	1,900	38,418
Apr 2020	1,251	4,570	2,722	3,079	2,198	5,630	2,452	4,391	5,774	6,481	224	147	3,444	35,475
May 2020	1,632	5,357	2,998	4,142	2,442	6,699	2,431	5,148	5,899	7,496	294	149	2,300	42,387
Jun 2020	2,132	6,235	3,601	5,321	2,830	8,216	2,757	6,000	6,667	9,166	373	173	679	52,792
Jul 2020	2,426	6,689	3,905	5,861	2,983	8,665	2,889	6,415	7,135	9,809	402	188	1,028	56,339
Aug 2020	2,299	6,426	3,714	5,335	2,870	8,209	2,760	6,109	6,737	9,082	364	173	1,124	52,954
Sep 2020	1,919	5,751	3,277	4,546	2,546	7,291	2,615	5,532	6,235	8,141	319	161	1,142	47,191
Oct 2020	1,364	4,471	2,643	3,297	2,106	5,724	2,382	4,375	5,524	6,628	238	143	2,084	36,811
Nov 2020	1,307	4,589	2,637	3,074	2,181	5,683	2,487	4,299	5,898	5,773	206	157	391	37,900
Dec 2020	1,565	5,440	3,208	3,665	2,516	6,532	2,794	4,989	6,834	6,609	227	187	498	44,068

	AE	BGE	DPL	JCPL	METED	PECO	PENLC	PEPCO	PL	PS	RECO	UGI	DIVERSITY	MID-ATLANTIC
Jan 2021	1,564	5,841	3,459	3,632	2,607	6,738	2,848	5,401	7,229	6,604	222	192	576	45,761
Feb 2021	1,509	5,512	3,296	3,522	2,520	6,467	2,798	5,108	6,939	6,404	213	182	787	43,683
Mar 2021	1,279	5,006	2,952	3,062	2,383	5,901	2,628	4,605	6,411	5,774	200	167	1,983	38,385
Apr 2021	1,238	4,558	2,710	3,062	2,194	5,646	2,447	4,370	5,735	6,434	222	146	3,478	35,284
May 2021	1,622	5,352	3,002	4,121	2,449	6,713	2,437	5,126	5,832	7,507	294	148	2,485	42,118
Jun 2021	2,107	6,158	3,577	5,304	2,840	8,267	2,758	5,987	6,682	9,130	372	174	872	52,484
Jul 2021	2,398	6,608	3,883	5,846	2,998	8,710	2,882	6,384	7,151	9,752	401	188	1,131	56,070
Aug 2021	2,271	6,355	3,694	5,319	2,886	8,279	2,765	6,100	6,761	9,044	363	174	1,073	52,938
Sep 2021	1,911	5,721	3,278	4,530	2,555	7,317	2,620	5,521	6,244	8,125	318	161	1,282	47,019
Oct 2021	1,355	4,448	2,629	3,248	2,111	5,734	2,380	4,364	5,502	6,532	235	142	2,086	36,594
Nov 2021	1,301	4,602	2,643	3,062	2,203	5,722	2,505	4,305	5,950	5,761	205	158	538	37,879
Dec 2021	1,568	5,442	3,216	3,680	2,535	6,574	2,810	4,987	6,841	6,637	228	188	638	44,068

Notes:
All forecast values represent unrestricted peaks, after reductions for distributed solar generation and prior to reductions for load management.

Table B-5

MONTHLY PEAK FORECAST (MW) FOR
EACH PJM WESTERN AND PJM SOUTHERN ZONE, GEOGRAPHIC REGION AND RTO

	AEP	APS	ATSI	COMED	DAYTON	DEOK	DLCO	EKPC	OVEC	WESTERN DIVERSITY	PJM WESTERN	DOM	TOTAL DIVERSITY	PJM RTO
Jan 2019	22,485	8,721	10,601	15,434	2,864	4,440	2,144	2,620	125	1,395	68,039	18,144	3,117	131,082
Feb 2019	21,347	8,290	10,442	14,961	2,759	4,238	2,064	2,405	125	1,313	65,318	16,718	3,081	125,072
Mar 2019	20,295	7,757	9,686	13,699	2,550	3,890	1,960	2,069	125	1,941	60,090	16,331	6,165	112,448
Apr 2019	19,326	7,059	9,118	13,483	2,477	3,909	2,103	1,739	105	2,640	56,679	15,799	5,524	108,258
May 2019	19,592	7,368	10,462	16,790	2,758	4,455	2,354	1,607	95	3,049	62,432	17,236	9,029	119,042
Jun 2019	21,884	8,286	12,276	20,467	3,189	5,167	2,727	1,884	95	1,543	74,432	18,394	6,413	141,576
Jul 2019	22,945	8,707	12,872	21,890	3,408	5,480	2,862	1,989	95	1,612	78,636	19,391	5,980	151,358
Aug 2019	22,710	8,566	12,514	21,325	3,345	5,408	2,786	1,961	95	1,512	77,198	18,969	6,129	146,061
Sep 2019	20,626	7,705	11,222	18,205	2,961	4,821	2,500	1,782	90	2,094	67,818	17,657	8,051	128,031
Oct 2019	18,753	6,918	9,021	13,812	2,483	4,004	2,077	1,734	90	2,438	56,454	15,424	5,762	108,129
Nov 2019	18,838	7,141	9,264	13,634	2,433	3,718	1,917	1,919	90	1,113	57,841	14,872	4,073	108,448
Dec 2019	20,776	8,060	10,396	15,463	2,702	4,181	2,086	2,359	110	1,244	64,889	16,276	2,915	123,896

	AEP	APS	ATSI	COMED	DAYTON	DEOK	DLCO	EKPC	OVEC	DIVERSITY	WESTERN	DOM	DIVERSITY	PJM RTO
Jan 2020	22,469	8,773	10,551	15,333	2,855	4,429	2,139	2,619	125	1,310	67,983	18,503	3,157	131,148
Feb 2020	21,305	8,349	10,372	14,841	2,743	4,221	2,056	2,404	125	1,492	64,924	17,070	3,381	124,603
Mar 2020	20,290	7,820	9,757	13,759	2,554	3,885	1,975	2,071	125	2,475	59,761	16,987	4,806	114,735
Apr 2020	19,409	7,197	9,227	13,596	2,497	3,926	2,136	1,760	105	3,482	56,371	16,463	4,953	110,282
May 2020	19,281	7,330	10,267	16,473	2,727	4,405	2,326	1,604	95	2,833	61,675	17,501	8,755	117,941
Jun 2020	21,819	8,322	12,266	20,459	3,173	5,188	2,727	1,884	95	1,035	74,898	18,587	6,225	141,766
Jul 2020	22,873	8,716	12,810	21,752	3,388	5,467	2,852	1,985	95	1,593	78,345	19,552	5,987	150,870
Aug 2020	22,573	8,522	12,409	21,035	3,321	5,392	2,760	1,956	95	1,486	76,577	19,096	6,925	144,312
Sep 2020	20,647	7,744	11,309	18,303	2,962	4,846	2,508	1,804	90	1,912	68,301	17,874	6,528	129,892
Oct 2020	18,273	6,822	8,894	13,592	2,442	3,944	2,043	1,715	90	1,811	56,004	15,455	4,961	107,204
Nov 2020	18,657	7,146	9,204	13,510	2,423	3,699	1,904	1,921	90	924	57,630	15,001	3,188	108,658
Dec 2020	20,938	8,175	10,438	15,408	2,717	4,236	2,089	2,381	110	1,337	65,155	16,652	3,148	124,562

	AEP	APS	ATSI	COMED	DAYTON	DEOK	DLCO	EKPC	OVEC	DIVERSITY	WESTERN	DOM	DIVERSITY	PJM RTO
Jan 2021	22,451	8,994	10,532	15,232	2,854	4,436	2,136	2,621	125	1,276	68,105	18,763	2,821	131,660
Feb 2021	21,435	8,614	10,349	14,742	2,753	4,243	2,060	2,413	125	1,166	65,568	17,429	3,141	125,492
Mar 2021	20,418	8,095	9,706	13,731	2,546	3,888	1,974	2,103	125	2,357	60,229	17,281	5,091	115,144
Apr 2021	19,339	7,375	9,192	13,520	2,488	3,915	2,114	1,767	105	3,163	56,652	16,686	5,285	109,978
May 2021	19,397	7,523	10,245	16,478	2,733	4,411	2,324	1,613	95	2,836	61,983	17,822	8,935	118,309
Jun 2021	21,898	8,553	12,278	20,566	3,179	5,204	2,734	1,897	95	1,177	75,227	18,862	5,934	142,688
Jul 2021	22,959	8,958	12,831	21,813	3,399	5,480	2,853	1,993	95	1,524	78,857	19,848	5,883	151,547
Aug 2021	22,723	8,787	12,490	21,211	3,336	5,419	2,778	1,972	95	1,351	77,460	19,420	5,594	146,648
Sep 2021	20,719	7,998	11,329	18,340	2,970	4,872	2,501	1,809	90	1,923	68,705	18,162	6,588	130,503
Oct 2021	18,203	7,027	8,878	13,603	2,428	3,928	2,026	1,713	90	2,050	55,846	15,813	4,110	108,279
Nov 2021	18,826	7,462	9,256	13,576	2,441	3,721	1,902	1,932	90	977	58,229	15,446	3,399	109,670
Dec 2021	21,095	8,466	10,479	15,511	2,742	4,257	2,100	2,390	110	1,519	65,631	17,081	3,400	125,537

Notes:
All forecast values represent unrestricted peaks, after reductions for distributed solar generation and prior to reductions for load management.

Table B-6

MONTHLY PEAK FORECAST (MW) FOR FE-EAST AND PLGRP

	FE_EAST	PLGRP
Jan 2019	9,136	7,431
Feb 2019	8,968	7,097
Mar 2019	7,767	6,414
Apr 2019	7,214	5,713
May 2019	8,723	6,040
Jun 2019	10,724	6,831
Jul 2019	11,517	7,286
Aug 2019	10,844	6,909
Sep 2019	9,431	6,383
Oct 2019	7,479	5,671
Nov 2019	7,710	6,099
Dec 2019	8,966	6,979

	FE_EAST	PLGRP
Jan 2020	9,092	7,419
Feb 2020	8,877	7,070
Mar 2020	7,712	6,391
Apr 2020	7,125	5,686
May 2020	8,503	5,904
Jun 2020	10,685	6,840
Jul 2020	11,438	7,272
Aug 2020	10,801	6,885
Sep 2020	9,448	6,352
Oct 2020	7,357	5,592
Nov 2020	7,647	6,055
Dec 2020	8,975	7,014

	FE_EAST	PLGRP
Jan 2021	9,060	7,397
Feb 2021	8,840	7,097
Mar 2021	7,683	6,392
Apr 2021	7,098	5,643
May 2021	8,485	5,826
Jun 2021	10,678	6,855
Jul 2021	11,430	7,295
Aug 2021	10,809	6,917
Sep 2021	9,421	6,356
Oct 2021	7,344	5,578
Nov 2021	7,666	6,107
Dec 2021	9,026	7,008

Notes:
All forecast values represent unrestricted peaks, after reductions for distributed solar generation and prior to reductions for load management.
FE_EAST contains JCPL, METED and PENLC zones. PLGRP contains PL and UGI zones.

Table B-7

PJM MID-ATLANTIC REGION LOAD MANAGEMENT
PLACED UNDER PJM COORDINATION - SUMMER (MW)

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
AE																
BASE	101															
CAPACITY PERFORMANCE	5	67	66	66	66	66	66	66	66	66	66	66	66	66	66	66
PRD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUMMER PERIOD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL LOAD MANAGEMENT	106	67	66	66	66	66	66	66	66	66	66	66	66	66	66	66
BGE																
BASE	518															
CAPACITY PERFORMANCE	26	168	166	165	165	165	167	167	166	166	167	166	168	167	167	167
PRD	0	71	70	0	0	0	0	0	0	0	0	0	0	0	0	0
SUMMER PERIOD	0	330	240	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL LOAD MANAGEMENT	544	569	476	165	165	165	167	167	166	166	167	166	168	167	167	167
DPL																
BASE	308															
CAPACITY PERFORMANCE	11	168	167	167	166	167	168	168	168	169	170	171	172	172	173	174
PRD	0	50	50	50	50	50	50	50	50	51	51	51	51	51	52	53
SUMMER PERIOD	0	58	75	66	66	66	66	66	66	67	67	67	68	68	68	68
TOTAL LOAD MANAGEMENT	319	276	292	283	282	283	284	284	284	287	288	289	291	291	293	295
JCPL																
BASE	98															
CAPACITY PERFORMANCE	8	141	140	140	140	140	141	141	141	141	142	142	142	143	143	143
PRD	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
SUMMER PERIOD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL LOAD MANAGEMENT	106	143	142	142	142	142	143	143	143	143	144	144	144	145	145	145
METED																
BASE	186															
CAPACITY PERFORMANCE	8	277	278	279	280	283	286	288	289	289	293	295	297	299	301	303
PRD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUMMER PERIOD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL LOAD MANAGEMENT	194	277	278	279	280	283	286	288	289	289	293	295	297	299	301	303

Notes:
DR Forecast accounts for the phase-out of Limited, Extended Summer, Annual, and Base DR in DY 2020.
DR Forecast for Base and CP DR prior to DY 2020 (2019) is based on the average ratio of committed DR (by DR product) to past forecasted peaks in the last three DYs (2016, 2017 and 2018) multiplied by the forecasted summer peaks in Table B-1.
It is assumed that historical Limited and Extended Summer DR will become Base DR while historical Annual DR will become CP DR.
Summer-Period DR refers to DR resources that aggregate with Winter-Period resources to form a year-round commitment.
DR Forecast for CP DR, Summer-Period DR and Price Responsive Demand (PRD) for DY 2020 and beyond is based on actual cleared quantities of those products in the 2020/21 and 2021/22 RPM Base Residual Auction.

Table B-7 (Continued)

PJM MID-ATLANTIC REGION LOAD MANAGEMENT
PLACED UNDER PJM COORDINATION - SUMMER (MW)

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
PECO																
BASE	250															
CAPACITY PERFORMANCE	14	372	374	376	378	380	381	384	385	388	390	393	395	397	400	403
PRD	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
SUMMER PERIOD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL LOAD MANAGEMENT	264	374	376	378	380	382	383	386	387	390	392	395	397	399	402	405
PENLC																
BASE	199															
CAPACITY PERFORMANCE	30	308	307	308	308	308	308	309	309	310	310	311	311	312	312	312
PRD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUMMER PERIOD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL LOAD MANAGEMENT	229	308	307	308	308	308	308	309	309	310	310	311	311	312	312	312
PEPCO																
BASE	484															
CAPACITY PERFORMANCE	11	174	173	173	172	173	173	173	173	173	174	174	175	175	176	177
PRD	0	81	80	80	80	80	80	80	80	81	81	81	81	81	82	83
SUMMER PERIOD	0	170	195	181	180	180	180	181	181	181	181	182	183	183	183	183
TOTAL LOAD MANAGEMENT	495	425	448	434	432	433	433	434	434	435	436	437	439	439	441	443
PL																
BASE	337															
CAPACITY PERFORMANCE	167	578	580	583	582	585	588	590	592	593	596	597	600	602	604	606
PRD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUMMER PERIOD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL LOAD MANAGEMENT	504	578	580	583	582	585	588	590	592	593	596	597	600	602	604	606
PS																
BASE	253															
CAPACITY PERFORMANCE	18	334	333	333	332	332	332	333	332	333	333	333	333	333	334	335
PRD	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
SUMMER PERIOD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL LOAD MANAGEMENT	271	336	335	335	334	334	334	335	334	335	335	335	335	335	336	337

Notes:
DR Forecast accounts for the phase-out of Limited, Extended Summer, Annual, and Base DR in DY 2020.
DR Forecast for Base and CP DR prior to DY 2020 (2019) is based on the average ratio of committed DR (by DR product) to past forecasted peaks in the last three DYs (2016, 2017 and 2018) multiplied by the forecasted summer peaks in Table B-1.
It is assumed that historical Limited and Extended Summer DR will become Base DR while historical Annual DR will become CP DR.
Summer-Period DR refers to DR resources that aggregate with Winter-Period resources to form a year-round commitment.
DR Forecast for CP DR, Summer-Period DR and Price Responsive Demand (PRD) for DY 2020 and beyond is based on actual cleared quantities of those products in the 2020/21 and 2021/22 RPM Base Residual Auction.

Table B-7 (Continued)

PJM MID-ATLANTIC REGION LOAD MANAGEMENT
PLACED UNDER PJM COORDINATION - SUMMER (MW)

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
RECO																
BASE	2															
CAPACITY PERFORMANCE	0	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
PRD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUMMER PERIOD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL LOAD MANAGEMENT	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
UGI																
BASE	0															
CAPACITY PERFORMANCE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PRD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUMMER PERIOD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL LOAD MANAGEMENT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PJM MID-ATLANTIC																
BASE	2,736															
CAPACITY PERFORMANCE	298	2,591	2,588	2,594	2,593	2,603	2,614	2,623	2,625	2,632	2,645	2,652	2,663	2,670	2,680	2,690
PRD	0	208	206	136	136	136	136	136	136	138	138	138	138	138	140	142
SUMMER PERIOD	0	558	510	247	246	246	246	247	247	248	248	249	251	251	251	251
TOTAL LOAD MANAGEMENT	3,034	3,357	3,304	2,977	2,975	2,985	2,996	3,006	3,008	3,018	3,031	3,039	3,052	3,059	3,071	3,083

Notes:
DR Forecast accounts for the phase-out of Limited, Extended Summer, Annual, and Base DR in DY 2020.
DR Forecast for Base and CP DR prior to DY 2020 (2019) is based on the average ratio of committed DR (by DR product) to past forecasted peaks in the last three DYs (2016, 2017 and 2018) multiplied by the forecasted summer peaks in Table B-1.
It is assumed that historical Limited and Extended Summer DR will become Base DR while historical Annual DR will become CP DR.
Summer-Period DR refers to DR resources that aggregate with Winter-Period resources to form a year-round commitment.
DR Forecast for CP DR, Summer-Period DR and Price Responsive Demand (PRD) for DY 2020 and beyond is based on actual cleared quantities of those products in the 2020/21 and 2021/22 RPM Base Residual Auction.

Table B-7 (Continued)

PJM WESTERN REGION AND PJM SOUTHERN REGION LOAD MANAGEMENT
PLACED UNDER PJM COORDINATION - SUMMER (MW)

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
AEP																
BASE	1,305															
CAPACITY PERFORMANCE	115	1,224	1,228	1,237	1,243	1,251	1,258	1,265	1,272	1,281	1,288	1,297	1,304	1,312	1,320	1,328
PRD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUMMER PERIOD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL LOAD MANAGEMENT	1,420	1,224	1,228	1,237	1,243	1,251	1,258	1,265	1,272	1,281	1,288	1,297	1,304	1,312	1,320	1,328
APS																
BASE	505															
CAPACITY PERFORMANCE	108	761	782	789	791	797	800	803	806	809	812	816	821	824	828	832
PRD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUMMER PERIOD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL LOAD MANAGEMENT	613	761	782	789	791	797	800	803	806	809	812	816	821	824	828	832
ATSI																
BASE	553															
CAPACITY PERFORMANCE	112	829	830	833	834	838	840	842	845	848	850	854	857	859	863	867
PRD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUMMER PERIOD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL LOAD MANAGEMENT	665	829	830	833	834	838	840	842	845	848	850	854	857	859	863	867
COMED																
BASE	1,136															
CAPACITY PERFORMANCE	116	1,462	1,466	1,472	1,474	1,481	1,484	1,490	1,498	1,507	1,513	1,520	1,526	1,534	1,542	1,550
PRD	0	111	111	112	112	112	113	113	114	114	115	115	116	116	117	118
SUMMER PERIOD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL LOAD MANAGEMENT	1,252	1,573	1,577	1,584	1,586	1,593	1,597	1,603	1,612	1,621	1,628	1,635	1,642	1,650	1,659	1,668
DAYTON																
BASE	149															
CAPACITY PERFORMANCE	19	177	177	178	178	180	180	181	182	183	184	184	185	186	187	188
PRD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUMMER PERIOD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL LOAD MANAGEMENT	168	177	177	178	178	180	180	181	182	183	184	184	185	186	187	188

Notes:
DR Forecast accounts for the phase-out of Limited, Extended Summer, Annual, and Base DR in DY 2020.
DR Forecast for Base and CP DR prior to DY 2020 (2019) is based on the average ratio of committed DR (by DR product) to past forecasted peaks in the last three DYs (2016, 2017 and 2018) multiplied by the forecasted summer peaks in Table B-1.
It is assumed that historical Limited and Extended Summer DR will become Base DR while historical Annual DR will become CP DR.
Summer-Period DR refers to DR resources that aggregate with Winter-Period resources to form a year-round commitment.
DR Forecast for CP DR, Summer-Period DR and Price Responsive Demand (PRD) for DY 2020 and beyond is based on actual cleared quantities of those products in the 2020/21 and 2021/22 RPM Base Residual Auction.

Table B-7 (Continued)

PJM WESTERN REGION AND PJM SOUTHERN REGION LOAD MANAGEMENT
PLACED UNDER PJM COORDINATION - SUMMER (MW)

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
DEOK																
BASE	154															
CAPACITY PERFORMANCE	26	148	149	150	150	151	152	153	154	155	156	157	158	158	159	160
PRD	0	17	18	18	18	18	18	18	18	18	18	19	19	19	19	19
SUMMER PERIOD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL LOAD MANAGEMENT	180	165	167	168	168	169	170	171	172	173	174	176	177	177	178	179
DLCO																
BASE	105															
CAPACITY PERFORMANCE	13	134	134	135	135	135	135	136	136	136	136	136	137	137	137	137
PRD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUMMER PERIOD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL LOAD MANAGEMENT	118	134	134	135	135	135	135	136	136	136	136	136	137	137	137	137
EKPC																
BASE	15															
CAPACITY PERFORMANCE	113	137	137	138	139	140	140	141	141	142	143	144	144	145	146	147
PRD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUMMER PERIOD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL LOAD MANAGEMENT	128	137	137	138	139	140	140	141	141	142	143	144	144	145	146	147
OVEC																
BASE	0															
CAPACITY PERFORMANCE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PRD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUMMER PERIOD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL LOAD MANAGEMENT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PJM WESTERN																
BASE	3,922															
CAPACITY PERFORMANCE	622	4,872	4,903	4,932	4,944	4,973	4,989	5,011	5,034	5,061	5,082	5,108	5,132	5,155	5,182	5,209
PRD	0	128	129	130	130	130	131	131	132	132	133	134	135	135	136	137
SUMMER PERIOD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL LOAD MANAGEMENT	4,544	5,000	5,032	5,062	5,074	5,103	5,120	5,142	5,166	5,193	5,215	5,242	5,267	5,290	5,318	5,346

Notes:
DR Forecast accounts for the phase-out of Limited, Extended Summer, Annual, and Base DR in DY 2020.
DR Forecast for Base and CP DR prior to DY 2020 (2019) is based on the average ratio of committed DR (by DR product) to past forecasted peaks in the last three DYs (2016, 2017 and 2018) multiplied by the forecasted summer peaks in Table B-1.
It is assumed that historical Limited and Extended Summer DR will become Base DR while historical Annual DR will become CP DR.
Summer-Period DR refers to DR resources that aggregate with Winter-Period resources to form a year-round commitment.
DR Forecast for CP DR, Summer-Period DR and Price Responsive Demand (PRD) for DY 2020 and beyond is based on actual cleared quantities of those products in the 2020/21 and 2021/22 RPM Base Residual Auction.

Table B-7 (Continued)

PJM WESTERN REGION AND PJM SOUTHERN REGION LOAD MANAGEMENT PLACED UNDER PJM COORDINATION - SUMMER (MW)

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
DOM																
BASE	531															
CAPACITY PERFORMANCE	45	770	782	793	804	810	816	819	823	830	837	841	847	849	854	859
PRD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUMMER PERIOD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL LOAD MANAGEMENT	576	770	782	793	804	810	816	819	823	830	837	841	847	849	854	859
PJM RTO																
BASE	7,189															
CAPACITY PERFORMANCE	965	8,233	8,273	8,319	8,341	8,386	8,419	8,453	8,482	8,523	8,564	8,601	8,642	8,674	8,716	8,758
PRD	0	336	335	266	266	266	267	267	268	270	271	272	273	273	276	279
SUMMER PERIOD	0	558	510	247	246	246	246	247	247	248	248	249	251	251	251	251
TOTAL LOAD MANAGEMENT	8,154	9,127	9,118	8,832	8,853	8,898	8,932	8,967	8,997	9,041	9,083	9,122	9,166	9,198	9,243	9,288

Notes:
DR Forecast accounts for the phase-out of Limited, Extended Summer, Annual, and Base DR in DY 2020.
DR Forecast for Base and CP DR prior to DY 2020 (2019) is based on the average ratio of committed DR (by DR product) to past forecasted peaks in the last three DYs (2016, 2017 and 2018) multiplied by the forecasted summer peaks in Table B-1.
It is assumed that historical Limited and Extended Summer DR will become Base DR while historical Annual DR will become CP DR.
Summer-Period DR refers to DR resources that aggregate with Winter-Period resources to form a year-round commitment.
DR Forecast for CP DR, Summer-Period DR and Price Responsive Demand (PRD) for DY 2020 and beyond is based on actual cleared quantities of those products in the 2020/21 and 2021/22 RPM Base Residual Auction.

Table B-7a

PEAK SHAVING ADJUSTMENTS TO SUMMER PEAK LOAD (MW) FOR EACH PJM ZONE AND RTO
2019 - 2034

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
AE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BGE	0	0	0	390	390	390	390	390	390	390	390	390	390	390	390	390
DPL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JCPL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
METED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PECO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PENLC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEPCO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RECO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UGI	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AEP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ATSI	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
COMED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DAYTON	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DEOK	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DLCO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EKPC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OVEC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DOM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PJM RTO	0	0	0	390	390	390	390	390	390	390	390	390	390	390	390	390

Notes:
Adjustments are for behavioral or direct control programs which may have different characteristics and will have varying impacts by time of day and THI.

Table B-8

DISTRIBUTED SOLAR ADJUSTMENTS TO SUMMER PEAK LOAD (MW) FOR EACH PJM ZONE AND RTO
2019 - 2034

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
AE	140	151	164	172	179	181	183	185	188	192	197	202	209	215	222	228
BGE	128	143	161	177	194	201	203	205	207	209	210	214	218	222	227	234
DPL	81	98	116	135	149	155	157	159	160	162	164	168	172	177	183	189
JCPL	204	229	256	275	290	296	299	304	312	321	333	345	359	374	389	404
METED	21	24	26	28	31	33	34	35	36	37	38	39	41	42	44	47
PECO	36	43	48	55	64	68	71	73	75	77	80	84	88	93	97	104
PENLC	6	9	12	15	18	20	21	22	23	25	26	28	29	31	33	36
PEPCO	117	134	153	172	189	199	204	207	208	210	211	213	216	219	222	227
PL	51	58	63	70	79	83	85	87	90	92	95	99	102	107	111	118
PS	313	363	416	453	482	494	502	513	529	548	570	595	623	652	681	712
RECO	6	8	10	11	12	12	13	13	14	14	15	16	17	18	19	20
UGI	0	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2
AEP	39	57	80	104	131	154	158	162	168	176	186	196	208	220	236	258
APS	54	64	74	85	98	107	110	112	115	118	121	126	130	136	142	151
ATSI	41	50	62	74	89	95	95	96	98	101	104	107	112	116	121	130
COMED	29	42	62	80	96	108	115	121	126	132	142	157	173	188	206	236
DAYTON	10	13	16	19	23	25	25	25	25	26	27	28	29	30	31	34
DEOK	8	12	17	22	28	30	31	31	32	33	34	36	38	40	42	46
DLCO	10	12	14	17	20	22	22	23	24	25	26	28	29	31	32	35
EKPC	5	5	6	7	7	10	10	10	11	12	14	15	17	18	20	21
OVEC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DOM	300	369	442	508	572	624	627	631	638	646	655	666	683	711	744	782
PJM RTO	1,603	1,886	2,199	2,480	2,753	2,921	2,968	3,017	3,081	3,157	3,250	3,364	3,493	3,642	3,804	4,014

Notes:
Adjustment values presented here are reflected in all summer peak forecast values.

Table B-9

ADJUSTMENTS TO SUMMER PEAK LOAD (MW) FOR EACH PJM ZONE AND RTO
2019 - 2034

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
AE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BGE	-40	-50	-50	-50	-50	-50	-50	-50	-50	-50	-50	-50	-50	-50	-50	-50
DPL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JCPL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
METED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PECO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PENLC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEPCO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RECO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UGI	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AEP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APS	10	50	280	300	310	320	310	300	290	280	270	260	240	240	230	220
ATSI	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
COMED	-40	-80	-140	-180	-230	-260	-300	-300	-300	-300	-300	-300	-300	-300	-300	-300
DAYTON	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DEOK	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DLCO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EKPC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OVEC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DOM	100	430	740	920	1,090	1,130	1,100	1,070	1,040	1,000	980	940	920	900	860	830
PJM RTO	30	350	830	990	1,120	1,140	1,060	1,020	980	930	900	850	810	790	740	700

Notes:
Adjustment values presented here are reflected in Tables B-1 through B-6 and Tables B-10, B-11, and B-12.
Adjustments are large, unanticipated changes deemed by PJM to not be captured in the load forecast model.

Table B-10

SUMMER COINCIDENT PEAK LOAD (MW) FOR
EACH PJM ZONE, LOCATIONAL DELIVERABILITY AREA AND RTO
2019 - 2034

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
AE	2,360	2,334	2,312	2,305	2,300	2,307	2,307	2,306	2,296	2,298	2,302	2,305	2,305	2,292	2,291	2,296
BGE	6,423	6,365	6,331	6,093	6,085	6,081	6,081	6,073	6,084	6,107	6,124	6,127	6,126	6,130	6,145	6,163
DPL	3,786	3,758	3,737	3,734	3,734	3,743	3,760	3,771	3,776	3,797	3,820	3,831	3,851	3,853	3,867	3,891
JCPL	5,705	5,654	5,642	5,635	5,635	5,638	5,648	5,661	5,677	5,679	5,704	5,699	5,711	5,737	5,742	5,759
METED	2,870	2,872	2,885	2,898	2,907	2,937	2,969	2,988	3,005	3,007	3,046	3,061	3,093	3,110	3,122	3,132
PECO	8,410	8,369	8,417	8,466	8,509	8,548	8,580	8,634	8,667	8,726	8,776	8,828	8,874	8,932	8,984	9,009
PENLC	2,766	2,757	2,755	2,758	2,761	2,761	2,762	2,765	2,771	2,778	2,776	2,780	2,781	2,789	2,791	2,797
PEPCO	6,199	6,147	6,119	6,106	6,102	6,098	6,100	6,103	6,113	6,126	6,140	6,152	6,160	6,169	6,177	6,199
PL	6,864	6,849	6,865	6,900	6,906	6,925	6,955	6,975	7,003	7,026	7,062	7,066	7,091	7,121	7,143	7,166
PS	9,540	9,452	9,401	9,392	9,384	9,379	9,389	9,389	9,388	9,392	9,393	9,380	9,385	9,389	9,400	9,421
RECO	386	385	384	382	382	382	383	385	386	385	385	386	386	388	388	390
UGI	182	181	181	181	181	181	181	181	182	181	181	181	181	182	181	181
AEP	22,085	22,006	22,103	22,237	22,338	22,498	22,599	22,713	22,854	23,013	23,168	23,306	23,404	23,545	23,680	23,860
APS	8,385	8,384	8,638	8,705	8,752	8,794	8,821	8,852	8,889	8,939	8,980	9,007	9,029	9,073	9,108	9,157
ATSI	12,343	12,290	12,322	12,357	12,371	12,413	12,443	12,478	12,522	12,568	12,603	12,647	12,673	12,717	12,753	12,791
COMED	21,129	21,009	21,064	21,151	21,205	21,255	21,311	21,390	21,506	21,642	21,749	21,811	21,879	22,000	22,090	22,196
DAYTON	3,235	3,218	3,225	3,243	3,257	3,275	3,289	3,302	3,315	3,335	3,355	3,367	3,378	3,386	3,400	3,421
DEOK	5,230	5,223	5,243	5,268	5,299	5,337	5,371	5,399	5,432	5,464	5,501	5,534	5,562	5,592	5,618	5,657
DLCO	2,744	2,733	2,734	2,743	2,748	2,751	2,752	2,756	2,761	2,767	2,772	2,774	2,776	2,786	2,790	2,796
EKPC	1,921	1,918	1,926	1,936	1,946	1,956	1,964	1,971	1,982	1,993	2,003	2,011	2,019	2,028	2,036	2,049
OVEC	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77
DOM	18,717	18,888	19,184	19,457	19,744	19,872	20,013	20,081	20,185	20,362	20,541	20,603	20,735	20,799	20,886	21,061
PJM RTO	151,357	150,869	151,545	152,024	152,623	153,208	153,755	154,250	154,871	155,662	156,458	156,933	157,476	158,095	158,669	159,469
PJM MID-ATLANTIC	55,491	55,123	55,029	54,850	54,886	54,980	55,115	55,231	55,348	55,502	55,709	55,796	55,944	56,092	56,231	56,404
EASTERN MID-ATLANTIC	30,187	29,952	29,893	29,914	29,944	29,997	30,067	30,146	30,190	30,277	30,380	30,429	30,512	30,591	30,672	30,766
SOUTHERN MID-ATLANTIC	12,622	12,512	12,450	12,199	12,187	12,179	12,181	12,176	12,197	12,233	12,264	12,279	12,286	12,299	12,322	12,362

Notes:
All forecast values represent unrestricted peaks, after reductions for distributed solar generation.
Load values for Zones and Locational Deliverability Areas are coincident with the PJM RTO peak.
This table will be used for the Reliability Pricing Model.
Summer season indicates peak from June, July, August.

Table B-11

PJM CONTROL AREA - JANUARY 2019
SUMMER TOTAL INTERNAL DEMAND FORECAST (MW) FOR EACH NERC REGION
2019 - 2034

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	Annual Growth Rate (10 yr)
PJM - RELIABILITY FIRST												
TOTAL INTERNAL DEMAND	129,978	129,333	129,706	129,884	130,212	130,613	131,004	131,420	131,925	132,531	133,146	0.2%
% GROWTH TOTAL		-0.5%	0.3%	0.1%	0.3%	0.3%	0.3%	0.3%	0.4%	0.5%	0.5%	
CONTRACTUALLY INTERRUPTIBLE	7,450	8,220	8,199	7,901	7,910	7,948	7,976	8,007	8,033	8,069	8,103	
DIRECT CONTROL	0	0	0	0	0	0	0	0	0	0	0	
TOTAL LOAD MANAGEMENT	7,450	8,220	8,199	7,901	7,910	7,948	7,976	8,007	8,033	8,069	8,103	
NET INTERNAL DEMAND	122,528	121,113	121,507	121,983	122,302	122,665	123,028	123,413	123,892	124,462	125,043	0.2%
% GROWTH NET		-1.2%	0.3%	0.4%	0.3%	0.3%	0.3%	0.3%	0.4%	0.5%	0.5%	
PJM - SERC												
TOTAL INTERNAL DEMAND	21,380	21,537	21,841	22,141	22,412	22,595	22,749	22,830	22,945	23,130	23,310	0.9%
% GROWTH TOTAL		0.7%	1.4%	1.4%	1.2%	0.8%	0.7%	0.4%	0.5%	0.8%	0.8%	
CONTRACTUALLY INTERRUPTIBLE	704	907	919	931	943	950	956	960	964	972	980	
DIRECT CONTROL	0	0	0	0	0	0	0	0	0	0	0	
TOTAL LOAD MANAGEMENT	704	907	919	931	943	950	956	960	964	972	980	
NET INTERNAL DEMAND	20,676	20,630	20,922	21,210	21,469	21,645	21,793	21,870	21,981	22,158	22,330	0.8%
% GROWTH NET		-0.2%	1.4%	1.4%	1.2%	0.8%	0.7%	0.4%	0.5%	0.8%	0.8%	
PJM RTO												
TOTAL INTERNAL DEMAND	151,358	150,870	151,547	152,025	152,624	153,208	153,753	154,250	154,870	155,661	156,456	0.3%
% GROWTH TOTAL		-0.3%	0.4%	0.3%	0.4%	0.4%	0.4%	0.3%	0.4%	0.5%	0.5%	
CONTRACTUALLY INTERRUPTIBLE	8,154	9,127	9,118	8,832	8,853	8,898	8,932	8,967	8,997	9,041	9,083	
DIRECT CONTROL	0	0	0	0	0	0	0	0	0	0	0	
TOTAL LOAD MANAGEMENT	8,154	9,127	9,118	8,832	8,853	8,898	8,932	8,967	8,997	9,041	9,083	
NET INTERNAL DEMAND	143,204	141,743	142,429	143,193	143,771	144,310	144,821	145,283	145,873	146,620	147,373	0.3%
% GROWTH NET		-1.0%	0.5%	0.5%	0.4%	0.4%	0.4%	0.3%	0.4%	0.5%	0.5%	

Notes:
Total Internal Demand = projected PJM seasonal peak load at normal peak weather conditions in the absence of any load reductions due to load management, voltage reductions or voluntary curtailments.
Contractually Interruptible = Firm Service Level + Guaranteed Load Drop
The above forecasts incorporate all load in the PJM Control Area, including members and non-members
All average growth rates are calculated from the first year of the forecast (2019).

Table B-11 (Continued)

PJM CONTROL AREA - JANUARY 2019
SUMMER TOTAL INTERNAL DEMAND FORECAST (MW) FOR EACH NERC REGION
2019 - 2034

	2030	2031	2032	2033	2034	Annual Growth Rate (15 yr)
PJM - RELIABILITY FIRST						
TOTAL INTERNAL DEMAND	133,500	133,885	134,433	134,880	135,522	0.3%
% GROWTH TOTAL	0.3%	0.3%	0.4%	0.3%	0.5%	
CONTRACTUALLY INTERRUPTIBLE	8,137	8,175	8,204	8,243	8,282	
DIRECT CONTROL	0	0	0	0	0	
TOTAL LOAD MANAGEMENT	8,137	8,175	8,204	8,243	8,282	
NET INTERNAL DEMAND	125,363	125,710	126,229	126,637	127,240	0.3%
% GROWTH NET	0.3%	0.3%	0.4%	0.3%	0.5%	
PJM - SERC						
TOTAL INTERNAL DEMAND	23,433	23,591	23,662	23,790	23,947	0.8%
% GROWTH TOTAL	0.5%	0.7%	0.3%	0.5%	0.7%	
CONTRACTUALLY INTERRUPTIBLE	985	991	994	1,000	1,006	
DIRECT CONTROL	0	0	0	0	0	
TOTAL LOAD MANAGEMENT	985	991	994	1,000	1,006	
NET INTERNAL DEMAND	22,448	22,600	22,668	22,790	22,941	0.7%
% GROWTH NET	0.5%	0.7%	0.3%	0.5%	0.7%	
PJM RTO						
TOTAL INTERNAL DEMAND	156,933	157,476	158,095	158,670	159,469	0.3%
% GROWTH TOTAL	0.3%	0.3%	0.4%	0.4%	0.5%	
CONTRACTUALLY INTERRUPTIBLE	9,122	9,166	9,198	9,243	9,288	
DIRECT CONTROL	0	0	0	0	0	
TOTAL LOAD MANAGEMENT	9,122	9,166	9,198	9,243	9,288	
NET INTERNAL DEMAND	147,811	148,310	148,897	149,427	150,181	0.3%
% GROWTH NET	0.3%	0.3%	0.4%	0.4%	0.5%	

Notes:
Total Internal Demand = projected PJM seasonal peak load at normal peak weather conditions in the absence of any load reductions due to load management, voltage reductions or voluntary curtailments.
Contractually Interruptible = Firm Service Level + Guaranteed Load Drop
The above forecasts incorporate all load in the PJM Control Area, including members and non-members
All average growth rates are calculated from the first year of the forecast (2019).

Table B-12

PJM CONTROL AREA - JANUARY 2019
WINTER TOTAL INTERNAL DEMAND FORECAST (MW) FOR EACH NERC REGION
2018/19 - 2028/29

	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	Annual Growth Rate (10 yr)
PJM - RELIABILITY FIRST												
TOTAL INTERNAL DEMAND	110,318	110,026	110,276	110,904	111,182	111,627	111,717	112,100	112,514	113,046	113,244	0.3%
% GROWTH TOTAL		-0.3%	0.2%	0.6%	0.3%	0.4%	0.1%	0.3%	0.4%	0.5%	0.2%	
CONTRACTUALLY INTERRUPTIBLE	807	7,326	7,354	7,388	7,398	7,436	7,463	7,493	7,518	7,551	7,584	
DIRECT CONTROL	0	0	0	0	0	0	0	0	0	0	0	
TOTAL LOAD MANAGEMENT	807	7,326	7,354	7,388	7,398	7,436	7,463	7,493	7,518	7,551	7,584	
NET INTERNAL DEMAND	109,511	102,700	102,922	103,516	103,784	104,191	104,254	104,607	104,996	105,495	105,660	(0.4%)
% GROWTH NET		-6.2%	0.2%	0.6%	0.3%	0.4%	0.1%	0.3%	0.4%	0.5%	0.2%	
PJM - SERC												
TOTAL INTERNAL DEMAND	20,764	21,122	21,384	21,765	22,076	22,255	22,374	22,497	22,622	22,780	22,934	1.0%
% GROWTH TOTAL		1.7%	1.2%	1.8%	1.4%	0.8%	0.5%	0.5%	0.6%	0.7%	0.7%	
CONTRACTUALLY INTERRUPTIBLE	158	907	919	931	943	950	956	960	964	972	980	
DIRECT CONTROL	0	0	0	0	0	0	0	0	0	0	0	
TOTAL LOAD MANAGEMENT	158	907	919	931	943	950	956	960	964	972	980	
NET INTERNAL DEMAND	20,606	20,215	20,465	20,834	21,133	21,305	21,418	21,537	21,658	21,808	21,954	0.6%
% GROWTH NET		-1.9%	1.2%	1.8%	1.4%	0.8%	0.5%	0.6%	0.6%	0.7%	0.7%	
PJM RTO												
TOTAL INTERNAL DEMAND	131,082	131,148	131,660	132,669	133,258	133,882	134,091	134,597	135,136	135,826	136,178	0.4%
% GROWTH TOTAL		0.1%	0.4%	0.8%	0.4%	0.5%	0.2%	0.4%	0.4%	0.5%	0.3%	
CONTRACTUALLY INTERRUPTIBLE	965	8,233	8,273	8,319	8,341	8,386	8,419	8,453	8,482	8,523	8,564	
DIRECT CONTROL	0	0	0	0	0	0	0	0	0	0	0	
TOTAL LOAD MANAGEMENT	965	8,233	8,273	8,319	8,341	8,386	8,419	8,453	8,482	8,523	8,564	
NET INTERNAL DEMAND	130,117	122,915	123,387	124,350	124,917	125,496	125,672	126,144	126,654	127,303	127,614	(0.2%)
% GROWTH NET		-5.5%	0.4%	0.8%	0.5%	0.5%	0.1%	0.4%	0.4%	0.5%	0.2%	

Notes:
Total Internal Demand = projected PJM seasonal peak load at normal peak weather conditions in the absence of any load reductions due to load management, voltage reductions or voluntary curtailments.
Contractually Interruptible = Firm Service Level + Guaranteed Load Drop
The above forecasts incorporate all load in the PJM Control Area, including members and non-members
All average growth rates are calculated from the first year of the forecast (2018/19).

Table B-12 (Continued)

PJM CONTROL AREA - JANUARY 2019
WINTER TOTAL INTERNAL DEMAND FORECAST (MW) FOR EACH NERC REGION
2018/19 - 2028/29

	29/30	30/31	31/32	32/33	33/34	Annual Growth Rate (15 yr)
PJM - RELIABILITY FIRST						
TOTAL INTERNAL DEMAND	113,806	113,619	113,966	114,650	114,838	0.3%
% GROWTH TOTAL	0.5%	-0.2%	0.3%	0.6%	0.2%	
CONTRACTUALLY INTERRUPTIBLE	7,616	7,651	7,680	7,716	7,752	
DIRECT CONTROL	0	0	0	0	0	
TOTAL LOAD MANAGEMENT	7,616	7,651	7,680	7,716	7,752	
NET INTERNAL DEMAND	106,190	105,968	106,286	106,934	107,086	(0.1%)
% GROWTH NET	0.5%	-0.2%	0.3%	0.6%	0.1%	
PJM - SERC						
TOTAL INTERNAL DEMAND	23,072	23,178	23,314	23,458	23,600	0.9%
% GROWTH TOTAL	0.6%	0.5%	0.6%	0.6%	0.6%	
CONTRACTUALLY INTERRUPTIBLE	985	991	994	1,000	1,006	
DIRECT CONTROL	0	0	0	0	0	
TOTAL LOAD MANAGEMENT	985	991	994	1,000	1,006	
NET INTERNAL DEMAND	22,087	22,187	22,320	22,458	22,594	0.6%
% GROWTH NET	0.6%	0.5%	0.6%	0.6%	0.6%	
PJM RTO						
TOTAL INTERNAL DEMAND	136,878	136,797	137,280	138,108	138,438	0.4%
% GROWTH TOTAL	0.5%	-0.1%	0.4%	0.6%	0.2%	
CONTRACTUALLY INTERRUPTIBLE	8,601	8,642	8,674	8,716	8,758	
DIRECT CONTROL	0	0	0	0	0	
TOTAL LOAD MANAGEMENT	8,601	8,642	8,674	8,716	8,758	
NET INTERNAL DEMAND	128,277	128,155	128,606	129,392	129,680	(0.0%)
% GROWTH NET	0.5%	-0.1%	0.4%	0.6%	0.2%	

Notes:
Total Internal Demand = projected PJM seasonal peak load at normal peak weather conditions in the absence of any load reductions due to load management, voltage reductions or voluntary curtailments.
Contractually Interruptible = Firm Service Level + Guaranteed Load Drop
The above forecasts incorporate all load in the PJM Control Area, including members and non-members
All average growth rates are calculated from the first year of the forecast (2018/19).

Table C-1

PJM LOCATIONAL DELIVERABILITY AREAS
CENTRAL MID-ATLANTIC: BGE, METED, PEPCO, PL and UGI
SEASONAL PEAKS - MW

BASE (50/50) FORECAST

YEAR	SPRING	SUMMER	FALL	WINTER
2019	18,864	23,171	19,830	21,113
2020	18,634	23,024	19,847	21,074
2021	18,574	22,967	19,775	21,119
2022	18,777	22,815	19,790	21,249
2023	18,819	22,805	19,740	21,265
2024	18,873	22,876	19,900	21,318
2025	18,770	22,883	20,067	21,245
2026	18,795	22,937	20,121	21,373
2027	18,833	23,015	20,091	21,449
2028	19,070	23,091	20,036	21,547
2029	19,177	23,168	20,120	21,572
2030	19,187	23,236	20,298	21,493
2031	19,099	23,264	20,425	21,525
2032	19,085	23,351	20,429	21,652
2033	19,283	23,420	20,458	21,760
2034	19,356	23,495	20,422	21,770

EXTREME WEATHER (90/10) FORECAST

YEAR	SPRING	SUMMER	FALL	WINTER
2019	19,991	24,326	21,654	22,121
2020	19,795	24,161	21,518	22,078
2021	19,772	24,126	21,533	22,009
2022	19,897	23,980	21,603	22,107
2023	19,925	24,000	21,648	22,154
2024	19,972	24,031	21,708	22,207
2025	19,955	24,112	21,764	22,234
2026	20,003	24,152	21,813	22,280
2027	20,060	24,208	21,877	22,305
2028	20,206	24,328	21,969	22,381
2029	20,292	24,469	22,062	22,456
2030	20,327	24,469	22,114	22,477
2031	20,337	24,566	22,178	22,504
2032	20,423	24,621	22,247	22,544
2033	20,522	24,735	22,331	22,587
2034	20,588	24,827	22,419	22,641

Notes:
All forecast values represent unrestricted peaks, after reductions for distributed solar generation and prior to reductions for load management.
Spring season indicates peak from March, April, May.
Summer season indicates peak from June, July, August.
Fall season indicates peak from September, October, November.
Winter season indicates peak from December, January, February.

Table C-2

PJM LOCATIONAL DELIVERABILITY AREAS
WESTERN MID-ATLANTIC: METED, PENLC, PL and UGI
SEASONAL PEAKS - MW

BASE (50/50) FORECAST

YEAR	SPRING	SUMMER	FALL	WINTER
2019	11,328	13,013	11,400	12,846
2020	11,283	12,966	11,357	12,822
2021	11,292	12,999	11,396	12,803
2022	11,353	13,074	11,448	12,876
2023	11,377	13,094	11,429	12,895
2024	11,407	13,143	11,509	12,932
2025	11,430	13,199	11,586	12,959
2026	11,464	13,253	11,623	12,983
2027	11,498	13,294	11,653	13,009
2028	11,540	13,346	11,656	13,066
2029	11,583	13,411	11,695	13,093
2030	11,598	13,447	11,742	13,112
2031	11,611	13,511	11,827	13,129
2032	11,651	13,561	11,836	13,153
2033	11,702	13,622	11,872	13,189
2034	11,715	13,663	11,902	13,210

EXTREME WEATHER (90/10) FORECAST

YEAR	SPRING	SUMMER	FALL	WINTER
2019	11,837	13,708	12,334	13,279
2020	11,791	13,668	12,275	13,242
2021	11,787	13,692	12,323	13,220
2022	11,860	13,762	12,388	13,284
2023	11,882	13,814	12,424	13,318
2024	11,912	13,858	12,489	13,348
2025	11,932	13,934	12,537	13,362
2026	11,937	13,986	12,577	13,399
2027	11,970	14,016	12,627	13,423
2028	12,027	14,088	12,679	13,461
2029	12,085	14,153	12,744	13,512
2030	12,089	14,199	12,793	13,518
2031	12,098	14,278	12,840	13,525
2032	12,129	14,316	12,887	13,560
2033	12,181	14,379	12,943	13,582
2034	12,236	14,436	12,989	13,607

Notes:
All forecast values represent unrestricted peaks, after reductions for distributed solar generation and prior to reductions for load management.
Spring season indicates peak from March, April, May.
Summer season indicates peak from June, July, August.
Fall season indicates peak from September, October, November.
Winter season indicates peak from December, January, February.

Table C-3

PJM LOCATIONAL DELIVERABILITY AREAS
EASTERN MID-ATLANTIC: AE, DPL, JCPL, PECO, PS and RECO
SEASONAL PEAKS - MW

BASE (50/50) FORECAST

YEAR	SPRING	SUMMER	FALL	WINTER
2019	22,859	30,950	25,145	22,221
2020	22,547	30,797	25,004	22,139
2021	22,414	30,598	25,018	22,079
2022	22,568	30,759	25,066	22,175
2023	22,676	30,675	25,082	22,215
2024	22,751	30,791	25,202	22,236
2025	22,719	30,965	25,303	22,216
2026	22,744	31,031	25,372	22,266
2027	22,735	30,946	25,436	22,318
2028	22,985	31,056	25,470	22,386
2029	23,183	31,114	25,578	22,422
2030	23,094	31,277	25,668	22,467
2031	23,078	31,453	25,794	22,435
2032	23,049	31,391	25,871	22,484
2033	23,231	31,608	25,945	22,567
2034	23,421	31,624	26,031	22,636

EXTREME WEATHER (90/10) FORECAST

YEAR	SPRING	SUMMER	FALL	WINTER
2019	26,093	33,493	28,317	22,839
2020	25,908	33,257	28,318	22,740
2021	25,847	33,198	28,352	22,674
2022	25,916	33,216	28,434	22,771
2023	25,974	33,272	28,347	22,787
2024	26,040	33,370	28,439	22,845
2025	26,094	33,490	28,741	22,802
2026	26,150	33,574	28,765	22,873
2027	26,219	33,644	28,856	22,896
2028	26,343	33,708	28,818	22,967
2029	26,461	33,770	28,826	23,006
2030	26,479	33,936	29,030	23,039
2031	26,531	34,076	29,304	22,987
2032	26,645	34,190	29,372	23,060
2033	26,753	34,266	29,487	23,124
2034	26,874	34,397	29,554	23,169

Notes:
All forecast values represent unrestricted peaks, after reductions for distributed solar generation and prior to reductions for load management.
Spring season indicates peak from March, April, May.
Summer season indicates peak from June, July, August.
Fall season indicates peak from September, October, November.
Winter season indicates peak from December, January, February.

Table C-4

PJM LOCATIONAL DELIVERABILITY AREAS
SOUTHERN MID-ATLANTIC: BGE and PEPCO
SEASONAL PEAKS - MW

BASE (50/50) FORECAST

YEAR	SPRING	SUMMER	FALL	WINTER
2019	10,308	13,071	11,193	11,213
2020	10,145	12,958	11,210	11,201
2021	10,088	12,899	11,094	11,242
2022	10,140	12,683	11,089	11,280
2023	10,142	12,656	11,069	11,286
2024	10,182	12,661	11,117	11,270
2025	10,148	12,650	11,211	11,261
2026	10,117	12,659	11,223	11,323
2027	10,129	12,687	11,163	11,354
2028	10,211	12,715	11,153	11,391
2029	10,271	12,741	11,166	11,377
2030	10,300	12,772	11,246	11,369
2031	10,259	12,779	11,335	11,391
2032	10,235	12,811	11,291	11,437
2033	10,301	12,836	11,298	11,490
2034	10,336	12,866	11,311	11,493

EXTREME WEATHER (90/10) FORECAST

YEAR	SPRING	SUMMER	FALL	WINTER
2019	11,166	13,755	12,220	11,774
2020	11,032	13,657	12,129	11,757
2021	11,032	13,563	12,085	11,728
2022	11,034	13,421	12,094	11,759
2023	11,032	13,384	12,072	11,773
2024	11,029	13,386	12,115	11,790
2025	10,979	13,381	12,152	11,793
2026	10,992	13,412	12,136	11,820
2027	11,064	13,404	12,138	11,834
2028	11,104	13,439	12,158	11,861
2029	11,139	13,500	12,218	11,892
2030	11,144	13,502	12,237	11,893
2031	11,099	13,510	12,272	11,908
2032	11,179	13,538	12,265	11,934
2033	11,222	13,595	12,296	11,955
2034	11,250	13,609	12,309	11,976

Notes:
All forecast values represent unrestricted peaks, after reductions for distributed solar generation and prior to reductions for load management.
Spring season indicates peak from March, April, May.
Summer season indicates peak from June, July, August.
Fall season indicates peak from September, October, November.
Winter season indicates peak from December, January, February.

Table D-1

SUMMER EXTREME WEATHER (90/10) PEAK LOAD FOR EACH PJM MID-ATLANTIC ZONE AND GEOGRAPHIC REGION 2019 - 2034

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
AE	2,524	2,501	2,482	2,475	2,469	2,473	2,478	2,477	2,473	2,471	2,478	2,476	2,480	2,476	2,478	2,478
BGE	7,040	6,987	6,935	6,792	6,771	6,774	6,759	6,780	6,774	6,796	6,834	6,824	6,813	6,832	6,865	6,867
DPL	4,086	4,056	4,033	4,022	4,018	4,044	4,061	4,076	4,083	4,087	4,113	4,143	4,162	4,174	4,179	4,196
JCPL	6,452	6,415	6,379	6,391	6,392	6,399	6,421	6,444	6,438	6,458	6,478	6,488	6,514	6,531	6,562	6,582
METED	3,098	3,092	3,108	3,130	3,148	3,170	3,201	3,221	3,238	3,260	3,273	3,308	3,342	3,358	3,380	3,401
PECO	9,101	9,152	9,134	9,179	9,225	9,278	9,419	9,474	9,467	9,496	9,559	9,616	9,762	9,771	9,803	9,857
PENLC	3,013	3,004	3,002	3,009	3,009	3,013	3,019	3,026	3,025	3,031	3,041	3,044	3,051	3,055	3,060	3,062
PEPCO	6,715	6,670	6,628	6,629	6,613	6,612	6,622	6,632	6,630	6,644	6,666	6,678	6,697	6,706	6,731	6,742
PL	7,398	7,372	7,384	7,425	7,458	7,476	7,514	7,539	7,554	7,598	7,639	7,647	7,684	7,704	7,739	7,773
PS	10,874	10,779	10,718	10,697	10,717	10,724	10,741	10,748	10,729	10,741	10,689	10,757	10,774	10,779	10,783	10,823
RECO	456	454	452	452	452	452	454	455	455	455	453	457	459	460	461	461
UGI	201	200	199	199	199	199	200	200	199	199	200	200	201	200	200	200
DIVERSITY - MID-ATLANTIC(-)	0	0	1	367	391	67	65	124	99	375	461	67	53	101	387	361
PJM MID-ATLANTIC	60,958	60,682	60,453	60,033	60,080	60,547	60,824	60,948	60,966	60,861	60,962	61,571	61,886	61,945	61,854	62,081
FE-EAST	12,476	12,495	12,395	12,419	12,444	12,495	12,641	12,676	12,606	12,648	12,701	12,750	12,907	12,848	12,891	12,952
PLGRP	7,598	7,572	7,583	7,624	7,657	7,675	7,714	7,739	7,753	7,797	7,839	7,847	7,885	7,904	7,939	7,973

Notes:
All forecast values represent unrestricted peaks, after reductions for distributed solar generation and prior to reductions for load management.
Summer season indicates peak from June, July, August.

Table D-1

SUMMER EXTREME WEATHER (90/10) PEAK LOAD FOR
EACH PJM WESTERN AND PJM SOUTHERN ZONE, GEOGRAPHIC REGION AND RTO
2019 - 2034

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
AEP	23,615	23,581	23,674	23,846	23,952	24,095	24,268	24,419	24,526	24,693	24,921	25,025	25,181	25,318	25,506	25,649
APS	8,831	8,840	9,085	9,158	9,201	9,250	9,297	9,336	9,356	9,409	9,474	9,497	9,531	9,575	9,624	9,665
ATSI	13,275	13,219	13,226	13,283	13,308	13,371	13,426	13,454	13,472	13,535	13,627	13,656	13,706	13,718	13,780	13,819
COMED	24,012	23,898	23,925	24,080	24,129	24,225	24,329	24,434	24,516	24,690	24,868	24,949	25,075	25,161	25,339	25,439
DAYTON	3,511	3,500	3,505	3,527	3,537	3,555	3,575	3,593	3,603	3,623	3,648	3,659	3,674	3,688	3,711	3,723
DEOK	5,661	5,654	5,673	5,725	5,743	5,779	5,820	5,857	5,883	5,926	5,976	6,002	6,032	6,068	6,117	6,142
DLCO	2,968	2,956	2,956	2,968	2,971	2,977	2,983	2,989	2,987	2,994	3,006	3,007	3,014	3,018	3,028	3,031
EKPC	2,063	2,064	2,070	2,099	2,099	2,104	2,115	2,128	2,135	2,152	2,169	2,171	2,183	2,192	2,218	2,222
OVEC	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95
DIVERSITY - WESTERN(-)	1	78	0	18	5	2	109	117	1	4	146	1	101	0	90	12
PJM WESTERN	84,030	83,729	84,209	84,763	85,030	85,449	85,799	86,188	86,572	87,113	87,638	88,060	88,390	88,833	89,328	89,773
DOM	20,124	20,321	20,603	20,910	21,147	21,303	21,457	21,584	21,676	21,831	22,039	22,131	22,273	22,386	22,525	22,641
DIVERSITY - TOTAL(-)	2,193	2,584	2,644	3,048	2,373	2,349	2,616	2,773	2,873	2,378	2,902	2,451	2,661	2,957	3,245	2,471
PJM RTO	162,920	162,226	162,622	163,043	164,280	165,019	165,638	166,188	166,441	167,806	168,344	169,379	170,042	170,308	170,939	172,397

Notes:
All forecast values represent unrestricted peaks, after reductions for distributed solar generation and prior to reductions for load management.
Summer season indicates peak from June, July, August.

Table D-2

WINTER EXTREME WEATHER (90/10) PEAK LOAD FOR
EACH PJM MID-ATLANTIC ZONE AND GEOGRAPHIC REGION
2018/19 - 2033/34

	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34
AE	1,624	1,613	1,604	1,603	1,598	1,593	1,588	1,586	1,584	1,584	1,582	1,579	1,571	1,572	1,571	1,570
BGE	6,126	6,107	6,099	6,107	6,112	6,115	6,110	6,121	6,135	6,142	6,160	6,152	6,155	6,166	6,176	6,185
DPL	3,626	3,624	3,610	3,629	3,655	3,669	3,682	3,699	3,705	3,731	3,754	3,766	3,778	3,796	3,811	3,832
JCPL	3,796	3,746	3,733	3,744	3,746	3,752	3,721	3,724	3,733	3,743	3,741	3,781	3,727	3,741	3,756	3,769
METED	2,682	2,674	2,671	2,692	2,706	2,720	2,731	2,746	2,758	2,776	2,794	2,802	2,809	2,823	2,838	2,849
PECO	6,934	6,915	6,902	6,947	6,969	6,991	7,006	7,025	7,045	7,079	7,109	7,114	7,120	7,144	7,169	7,192
PENLC	2,931	2,917	2,913	2,920	2,924	2,926	2,922	2,925	2,925	2,928	2,934	2,934	2,930	2,932	2,933	2,935
PEPCO	5,648	5,650	5,644	5,661	5,670	5,675	5,683	5,699	5,709	5,722	5,739	5,741	5,753	5,769	5,779	5,792
PL	7,466	7,452	7,438	7,474	7,491	7,505	7,513	7,532	7,544	7,561	7,589	7,587	7,593	7,610	7,617	7,630
PS	6,737	6,715	6,696	6,709	6,713	6,704	6,690	6,699	6,698	6,706	6,707	6,723	6,684	6,689	6,694	6,709
RECO	234	230	230	231	232	232	229	229	230	231	230	233	230	230	232	233
UGI	200	199	198	198	197	197	197	197	196	196	196	195	194	195	194	193
DIVERSITY - MID-ATLANTIC(-)	467	429	501	480	462	425	383	433	452	438	426	470	369	429	421	386
PJM MID-ATLANTIC	47,537	47,413	47,237	47,435	47,551	47,654	47,689	47,749	47,810	47,961	48,109	48,137	48,175	48,238	48,349	48,503
FE-EAST	9,376	9,330	9,304	9,337	9,355	9,368	9,373	9,392	9,407	9,428	9,466	9,459	9,460	9,484	9,505	9,525
PLGRP	7,666	7,651	7,636	7,672	7,688	7,702	7,710	7,729	7,740	7,757	7,784	7,782	7,787	7,805	7,811	7,823

Notes:
All forecast values represent unrestricted peaks, after reductions for distributed solar generation and prior to reductions for load management.
Winter season indicates peak from December, January, February.

Table D-2

WINTER EXTREME WEATHER (90/10) PEAK LOAD FOR
EACH PJM WESTERN AND PJM SOUTHERN ZONE, GEOGRAPHIC REGION AND RTO
2019 - 2034

	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34
AEP	23,645	23,637	23,665	23,905	24,021	24,152	24,251	24,388	24,514	24,664	24,811	24,853	24,967	25,100	25,235	25,350
APS	9,130	9,172	9,419	9,513	9,575	9,636	9,664	9,717	9,756	9,801	9,859	9,883	9,906	9,965	9,999	10,043
ATSI	10,868	10,855	10,832	10,864	10,895	10,925	10,953	10,974	10,984	11,005	10,997	11,058	11,065	11,070	11,081	11,115
COMED	15,888	15,817	15,723	15,881	15,913	15,963	15,961	15,970	16,010	16,155	16,190	16,246	16,193	16,239	16,297	16,346
DAYTON	2,967	2,952	2,942	2,969	2,982	2,993	2,994	3,006	3,014	3,028	3,042	3,050	3,044	3,053	3,060	3,072
DEOK	4,611	4,600	4,600	4,639	4,661	4,690	4,693	4,717	4,734	4,758	4,794	4,788	4,795	4,817	4,832	4,853
DLCO	2,187	2,179	2,175	2,182	2,186	2,188	2,183	2,185	2,185	2,187	2,195	2,195	2,185	2,187	2,188	2,194
EKPC	2,933	2,932	2,936	2,957	2,969	2,981	2,992	3,007	3,020	3,033	3,051	3,063	3,076	3,092	3,104	3,119
OVEC	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125
DIVERSITY - WESTERN(-)	978	997	1,020	1,033	1,093	1,023	1,033	1,036	1,055	1,106	1,141	1,122	1,098	1,109	1,061	1,140
PJM WESTERN	71,376	71,272	71,397	72,002	72,234	72,630	72,783	73,053	73,287	73,650	73,923	74,139	74,258	74,539	74,860	75,077
DOM	19,365	19,703	20,028	20,387	20,631	20,801	20,906	21,030	21,202	21,325	21,438	21,519	21,629	21,773	21,953	22,007
DIVERSITY - TOTAL(-)	2,416	2,249	2,158	2,234	2,273	2,226	2,223	2,171	2,196	2,289	2,271	2,596	2,302	2,295	2,320	2,334
PJM RTO	137,307	137,565	138,025	139,103	139,698	140,307	140,571	141,130	141,610	142,191	142,766	142,791	143,227	143,793	144,324	144,779

Notes:
All forecast values represent unrestricted peaks, after reductions for distributed solar generation and prior to reductions for load management.
Winter season indicates peak from December, January, February.

Table E-1

ANNUAL NET ENERGY (GWh) AND GROWTH RATES FOR EACH PJM MID-ATLANTIC ZONE AND GEOGRAPHIC REGION 2019 - 2029

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	Annual Growth Rate (10 yr)
AE	9,955	9,872	9,781	9,755	9,725	9,738	9,707	9,700	9,685	9,711	9,685	(0.3%)
		-0.8%	-0.9%	-0.3%	-0.3%	0.1%	-0.3%	-0.1%	-0.2%	0.3%	-0.3%	
BGE	33,131	33,068	32,924	32,966	32,964	33,094	33,056	33,096	33,144	33,323	33,341	0.1%
		-0.2%	-0.4%	0.1%	-0.0%	0.4%	-0.1%	0.1%	0.1%	0.5%	0.1%	
DPL	18,868	18,853	18,785	18,828	18,865	18,983	19,004	19,073	19,151	19,311	19,367	0.3%
		-0.1%	-0.4%	0.2%	0.2%	0.6%	0.1%	0.4%	0.4%	0.8%	0.3%	
JCPL	22,247	22,098	21,925	21,929	21,906	21,973	21,938	21,950	21,964	22,055	22,048	(0.1%)
		-0.7%	-0.8%	0.0%	-0.1%	0.3%	-0.2%	0.1%	0.1%	0.4%	-0.0%	
METED	15,945	15,941	15,969	16,110	16,197	16,337	16,390	16,496	16,602	16,768	16,861	0.6%
		-0.0%	0.2%	0.9%	0.5%	0.9%	0.3%	0.6%	0.6%	1.0%	0.6%	
PECO	42,031	41,986	42,024	42,310	42,490	42,817	42,888	43,070	43,263	43,627	43,788	0.4%
		-0.1%	0.1%	0.7%	0.4%	0.8%	0.2%	0.4%	0.4%	0.8%	0.4%	
PENLC	18,004	18,038	18,002	18,031	18,015	18,066	18,032	18,053	18,066	18,116	18,091	0.0%
		0.2%	-0.2%	0.2%	-0.1%	0.3%	-0.2%	0.1%	0.1%	0.3%	-0.1%	
PEPCO	31,561	31,570	31,447	31,497	31,503	31,638	31,627	31,688	31,763	31,938	31,966	0.1%
		0.0%	-0.4%	0.2%	0.0%	0.4%	-0.0%	0.2%	0.2%	0.6%	0.1%	
PL	41,062	41,055	41,033	41,273	41,394	41,659	41,683	41,813	41,948	42,243	42,328	0.3%
		-0.0%	-0.1%	0.6%	0.3%	0.6%	0.1%	0.3%	0.3%	0.7%	0.2%	
PS	43,948	43,755	43,423	43,445	43,389	43,474	43,418	43,423	43,406	43,544	43,454	(0.1%)
		-0.4%	-0.8%	0.1%	-0.1%	0.2%	-0.1%	0.0%	-0.0%	0.3%	-0.2%	
RECO	1,510	1,507	1,498	1,496	1,492	1,493	1,492	1,494	1,491	1,495	1,489	(0.1%)
		-0.2%	-0.6%	-0.1%	-0.3%	0.1%	-0.1%	0.1%	-0.2%	0.3%	-0.4%	
UGI	1,025	1,023	1,017	1,018	1,015	1,019	1,015	1,012	1,012	1,016	1,012	(0.1%)
		-0.2%	-0.6%	0.1%	-0.3%	0.4%	-0.4%	-0.3%	0.0%	0.4%	-0.4%	
PJM MID-ATLANTIC	279,287	278,766	277,828	278,658	278,955	280,291	280,250	280,868	281,495	283,147	283,430	0.1%
		-0.2%	-0.3%	0.3%	0.1%	0.5%	-0.0%	0.2%	0.2%	0.6%	0.1%	
FE-EAST	56,196	56,077	55,896	56,070	56,118	56,376	56,360	56,499	56,632	56,939	57,000	0.1%
		-0.2%	-0.3%	0.3%	0.1%	0.5%	-0.0%	0.2%	0.2%	0.5%	0.1%	
PLGRP	42,087	42,078	42,050	42,291	42,409	42,678	42,698	42,825	42,960	43,259	43,340	0.3%
		-0.0%	-0.1%	0.6%	0.3%	0.6%	0.0%	0.3%	0.3%	0.7%	0.2%	

Notes:
All forecast values represent metered energy, after reductions for distributed solar generation.
All average growth rates are calculated from the first year of the forecast (2019).

Table E-1 (continued)

ANNUAL NET ENERGY (GWh) AND GROWTH RATES FOR EACH PJM MID-ATLANTIC ZONE AND GEOGRAPHIC REGION 2030 - 2034

	2030	2031	2032	2033	2034	Annual Growth Rate (15 yr)
AE	9,647	9,626	9,634	9,600	9,593	(0.2%)
	-0.4%	-0.2%	0.1%	-0.4%	-0.1%	
BGE	33,362	33,403	33,536	33,508	33,567	0.1%
	0.1%	0.1%	0.4%	-0.1%	0.2%	
DPL	19,424	19,501	19,633	19,659	19,757	0.3%
	0.3%	0.4%	0.7%	0.1%	0.5%	
JCPL	21,989	21,977	22,051	22,022	22,059	(0.1%)
	-0.3%	-0.1%	0.3%	-0.1%	0.2%	
METED	16,899	16,989	17,137	17,197	17,293	0.5%
	0.2%	0.5%	0.9%	0.4%	0.6%	
PECO	43,884	44,040	44,330	44,407	44,611	0.4%
	0.2%	0.4%	0.7%	0.2%	0.5%	
PENLC	18,066	18,084	18,159	18,119	18,108	0.0%
	-0.1%	0.1%	0.4%	-0.2%	-0.1%	
PEPCO	32,016	32,097	32,257	32,254	32,337	0.2%
	0.2%	0.3%	0.5%	-0.0%	0.3%	
PL	42,339	42,439	42,679	42,696	42,808	0.3%
	0.0%	0.2%	0.6%	0.0%	0.3%	
PS	43,307	43,289	43,410	43,327	43,336	(0.1%)
	-0.3%	-0.0%	0.3%	-0.2%	0.0%	
RECO	1,487	1,485	1,491	1,486	1,485	(0.1%)
	-0.1%	-0.1%	0.4%	-0.3%	-0.1%	
UGI	1,009	1,006	1,007	1,003	1,002	(0.2%)
	-0.3%	-0.3%	0.1%	-0.4%	-0.1%	
PJM MID-ATLANTIC	283,429	283,936	285,324	285,278	285,956	0.2%
	-0.0%	0.2%	0.5%	-0.0%	0.2%	
FE-EAST	56,954	57,050	57,347	57,338	57,460	0.1%
	-0.1%	0.2%	0.5%	-0.0%	0.2%	
PLGRP	43,348	43,445	43,686	43,699	43,810	0.3%
	0.0%	0.2%	0.6%	0.0%	0.3%	

Notes:
All forecast values represent unrestricted peaks, after reductions for distributed solar generation and prior to reductions for load management.
All average growth rates are calculated from the first year of the forecast (2019).

Table E-1

ANNUAL NET ENERGY (GWh) AND GROWTH RATES FOR EACH PJM WESTERN AND PJM SOUTHERN ZONE, GEOGRAPHIC REGION AND RTO 2019 - 2029

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	Annual Growth Rate (10 yr)
AEP	133,042	133,200	133,335	134,446	135,188	136,334	136,823	137,589	138,390	139,748	140,422	0.5%
		0.1%	0.1%	0.8%	0.6%	0.8%	0.4%	0.6%	0.6%	1.0%	0.5%	
APS	50,092	50,362	51,484	52,002	52,344	52,850	53,001	53,281	53,569	54,098	54,335	0.8%
		0.5%	2.2%	1.0%	0.7%	1.0%	0.3%	0.5%	0.5%	1.0%	0.4%	
ATSI	68,772	68,871	68,814	69,107	69,218	69,548	69,606	69,812	70,023	70,396	70,470	0.2%
		0.1%	-0.1%	0.4%	0.2%	0.5%	0.1%	0.3%	0.3%	0.5%	0.1%	
COMED	101,267	101,199	101,119	101,756	102,045	102,724	102,875	103,342	103,839	104,639	105,006	0.4%
		-0.1%	-0.1%	0.6%	0.3%	0.7%	0.1%	0.5%	0.5%	0.8%	0.4%	
DAYTON	17,701	17,692	17,692	17,809	17,871	17,986	18,031	18,110	18,192	18,329	18,384	0.4%
		-0.1%	0.0%	0.7%	0.3%	0.6%	0.3%	0.4%	0.5%	0.8%	0.3%	
DEOK	27,627	27,648	27,671	27,896	28,043	28,270	28,367	28,515	28,674	28,937	29,056	0.5%
		0.1%	0.1%	0.8%	0.5%	0.8%	0.3%	0.5%	0.6%	0.9%	0.4%	
DLCO	14,522	14,516	14,493	14,550	14,567	14,619	14,600	14,622	14,642	14,707	14,705	0.1%
		-0.0%	-0.2%	0.4%	0.1%	0.4%	-0.1%	0.2%	0.1%	0.4%	-0.0%	
EKPC	11,017	11,052	11,073	11,127	11,163	11,227	11,227	11,269	11,301	11,381	11,392	0.3%
		0.3%	0.2%	0.5%	0.3%	0.6%	0.0%	0.4%	0.3%	0.7%	0.1%	
OVEC	570	570	570	570	570	570	570	570	570	570	570	0.0%
		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
PJM WESTERN	424,610	425,110	426,251	429,263	431,009	434,128	435,100	437,110	439,200	442,805	444,340	0.5%
		0.1%	0.3%	0.7%	0.4%	0.7%	0.2%	0.5%	0.5%	0.8%	0.3%	
DOM	97,827	99,082	100,282	101,930	103,319	104,566	105,134	105,848	106,643	107,898	108,719	1.1%
		1.3%	1.2%	1.6%	1.4%	1.2%	0.5%	0.7%	0.8%	1.2%	0.8%	
PJM RTO	801,724	802,958	804,361	809,851	813,283	818,985	820,484	823,826	827,338	833,850	836,489	0.4%
		0.2%	0.2%	0.7%	0.4%	0.7%	0.2%	0.4%	0.4%	0.8%	0.3%	

Notes:
All forecast values represent metered energy, after reductions for distributed solar generation.
All average growth rates are calculated from the first year of the forecast (2019).

Table E-1 (Continued)

ANNUAL NET ENERGY (GWh) AND GROWTH RATES FOR EACH PJM WESTERN AND PJM SOUTHERN ZONE, GEOGRAPHIC REGION AND RTO 2019 - 2029

	2030	2031	2032	2033	2034	Annual Growth Rate (15 yr)
AEP	140,861	141,596	142,798	143,317	144,178	0.5%
	0.3%	0.5%	0.8%	0.4%	0.6%	
APS	54,531	54,761	55,238	55,412	55,715	0.7%
	0.4%	0.4%	0.9%	0.3%	0.5%	
ATSI	70,470	70,663	71,068	71,068	71,197	0.2%
	0.0%	0.3%	0.6%	0.0%	0.2%	
COMED	105,112	105,447	106,174	106,374	106,736	0.4%
	0.1%	0.3%	0.7%	0.2%	0.3%	
DAYTON	18,388	18,452	18,583	18,616	18,681	0.4%
	0.0%	0.3%	0.7%	0.2%	0.3%	
DEOK	29,132	29,259	29,474	29,560	29,707	0.5%
	0.3%	0.4%	0.7%	0.3%	0.5%	
DLCO	14,685	14,694	14,756	14,737	14,748	0.1%
	-0.1%	0.1%	0.4%	-0.1%	0.1%	
EKPC	11,418	11,455	11,522	11,533	11,574	0.3%
	0.2%	0.3%	0.6%	0.1%	0.4%	
OVEC	570	570	570	570	570	0.0%
	0.0%	0.0%	0.0%	0.0%	0.0%	
PJM WESTERN	445,167	446,897	450,183	451,187	453,106	0.4%
	0.2%	0.4%	0.7%	0.2%	0.4%	
DOM	109,267	109,999	111,072	111,491	112,341	0.9%
	0.5%	0.7%	1.0%	0.4%	0.8%	
PJM RTO	837,863	840,832	846,579	847,956	851,403	0.4%
	0.2%	0.4%	0.7%	0.2%	0.4%	

Notes:
All forecast values represent metered energy, after reductions for distributed solar generation.
All average growth rates are calculated from the first year of the forecast (2019).

Table E-2

MONTHLY NET ENERGY FORECAST (GWh) FOR EACH PJM MID-ATLANTIC ZONE AND GEOGRAPHIC REGION

	AE	BGE	DPL	JCPL	METED	PECO	PENLC	PEPCO	PL	PS	RECO	UGI	PJM MID-ATLANTIC
Jan 2019	845	3,102	1,784	1,936	1,471	3,737	1,685	2,866	3,985	3,768	123	103	25,405
Feb 2019	743	2,721	1,570	1,707	1,316	3,315	1,509	2,518	3,520	3,345	110	90	22,464
Mar 2019	758	2,691	1,522	1,734	1,329	3,364	1,540	2,510	3,506	3,434	115	90	22,593
Apr 2019	693	2,385	1,328	1,580	1,201	3,066	1,405	2,262	3,100	3,194	110	77	20,401
May 2019	734	2,418	1,362	1,638	1,228	3,141	1,421	2,339	3,110	3,317	117	75	20,900
Jun 2019	889	2,879	1,622	1,992	1,335	3,716	1,426	2,812	3,265	3,933	138	79	24,086
Jul 2019	1,103	3,273	1,892	2,394	1,492	4,262	1,553	3,194	3,664	4,584	161	90	27,662
Aug 2019	1,055	3,169	1,829	2,273	1,462	4,109	1,546	3,098	3,577	4,424	155	87	26,784
Sep 2019	817	2,563	1,474	1,768	1,223	3,351	1,398	2,530	3,089	3,579	126	74	21,992
Oct 2019	749	2,445	1,378	1,673	1,239	3,178	1,455	2,327	3,177	3,400	120	78	21,219
Nov 2019	742	2,548	1,428	1,674	1,248	3,202	1,461	2,388	3,302	3,327	115	84	21,519
Dec 2019	827	2,937	1,679	1,878	1,401	3,590	1,605	2,717	3,767	3,643	120	98	24,262

	AE	BGE	DPL	JCPL	METED	PECO	PENLC	PEPCO	PL	PS	RECO	UGI	MID-ATLANTIC
Jan 2020	838	3,093	1,784	1,922	1,467	3,727	1,681	2,865	3,976	3,749	123	102	25,327
Feb 2020	761	2,804	1,623	1,750	1,355	3,417	1,556	2,598	3,627	3,435	113	93	23,132
Mar 2020	750	2,686	1,520	1,720	1,330	3,363	1,543	2,513	3,510	3,416	115	90	22,556
Apr 2020	683	2,372	1,320	1,560	1,194	3,046	1,400	2,252	3,084	3,156	109	77	20,253
May 2020	724	2,401	1,353	1,618	1,219	3,120	1,412	2,327	3,085	3,276	115	75	20,725
Jun 2020	881	2,873	1,617	1,977	1,338	3,711	1,429	2,815	3,275	3,917	138	79	24,050
Jul 2020	1,091	3,254	1,882	2,373	1,490	4,255	1,554	3,184	3,658	4,555	161	89	27,546
Aug 2020	1,041	3,139	1,812	2,245	1,447	4,076	1,533	3,075	3,541	4,366	153	86	26,514
Sep 2020	808	2,551	1,468	1,752	1,220	3,339	1,398	2,523	3,080	3,555	125	74	21,893
Oct 2020	740	2,428	1,370	1,652	1,226	3,154	1,445	2,314	3,147	3,362	119	77	21,034
Nov 2020	734	2,535	1,422	1,654	1,239	3,184	1,456	2,380	3,282	3,297	114	84	21,381
Dec 2020	821	2,932	1,682	1,875	1,416	3,594	1,631	2,724	3,790	3,671	122	97	24,355

	AE	BGE	DPL	JCPL	METED	PECO	PENLC	PEPCO	PL	PS	RECO	UGI	MID-ATLANTIC
Jan 2021	826	3,059	1,766	1,890	1,452	3,691	1,666	2,833	3,933	3,699	122	101	25,038
Feb 2021	728	2,703	1,564	1,678	1,310	3,299	1,503	2,510	3,503	3,300	109	89	22,296
Mar 2021	751	2,717	1,536	1,724	1,347	3,402	1,565	2,539	3,561	3,417	116	91	22,766
Apr 2021	677	2,364	1,317	1,546	1,195	3,049	1,399	2,247	3,084	3,127	108	76	20,189
May 2021	716	2,394	1,348	1,603	1,223	3,125	1,412	2,322	3,087	3,250	115	74	20,669
Jun 2021	874	2,864	1,612	1,964	1,345	3,725	1,430	2,807	3,283	3,893	137	79	24,013
Jul 2021	1,084	3,239	1,875	2,360	1,493	4,266	1,548	3,168	3,654	4,519	159	89	27,454
Aug 2021	1,037	3,139	1,814	2,242	1,464	4,113	1,541	3,076	3,569	4,359	153	86	26,593
Sep 2021	803	2,546	1,467	1,744	1,227	3,358	1,398	2,520	3,089	3,536	125	74	21,887
Oct 2021	735	2,423	1,368	1,644	1,232	3,166	1,441	2,309	3,150	3,350	119	77	21,014
Nov 2021	732	2,543	1,431	1,658	1,256	3,216	1,466	2,390	3,315	3,305	114	84	21,510
Dec 2021	818	2,933	1,687	1,872	1,425	3,614	1,633	2,726	3,805	3,668	121	97	24,399

Notes:
All forecast values represent metered energy, after reductions for distributed solar generation.

Table E-2

MONTHLY NET ENERGY FORECAST (GWh) FOR
EACH PJM WESTERN AND PJM SOUTHERN ZONE, GEOGRAPHIC REGION AND RTO

	AEP	APS	ATSI	COMED	DAYTON	DEOK	DLCO	EKPC	OVEC	PJM WESTERN	DOM	PJM RTO
Jan 2019	12,715	4,863	6,245	8,899	1,625	2,494	1,269	1,209	60	39,379	9,197	73,981
Feb 2019	11,138	4,281	5,577	7,874	1,426	2,182	1,127	1,021	60	34,686	8,019	65,169
Mar 2019	11,166	4,278	5,737	8,116	1,440	2,185	1,171	929	60	35,082	7,816	65,491
Apr 2019	9,960	3,752	5,301	7,584	1,331	2,012	1,104	749	45	31,838	6,920	59,159
May 2019	10,205	3,799	5,424	7,817	1,373	2,096	1,138	752	40	32,644	7,175	60,719
Jun 2019	10,983	4,069	5,713	8,711	1,508	2,478	1,271	879	40	35,652	8,622	68,360
Jul 2019	11,991	4,450	6,293	10,094	1,666	2,733	1,407	966	40	39,640	9,660	76,962
Aug 2019	11,892	4,406	6,230	9,825	1,655	2,707	1,382	959	40	39,096	9,354	75,234
Sep 2019	10,165	3,759	5,391	7,901	1,377	2,166	1,146	774	40	32,719	7,771	62,482
Oct 2019	10,333	3,848	5,507	7,973	1,397	2,107	1,150	766	40	33,121	7,158	61,498
Nov 2019	10,510	4,000	5,432	7,835	1,377	2,092	1,135	894	45	33,320	7,457	62,296
Dec 2019	11,984	4,587	5,922	8,638	1,526	2,375	1,222	1,119	60	37,433	8,678	70,373

	AEP	APS	ATSI	COMED	DAYTON	DEOK	DLCO	EKPC	OVEC	WESTERN	DOM	PJM RTO
Jan 2020	12,706	4,880	6,234	8,878	1,618	2,490	1,267	1,209	60	39,342	9,320	73,989
Feb 2020	11,490	4,438	5,743	8,117	1,464	2,250	1,161	1,054	60	35,777	8,401	67,310
Mar 2020	11,188	4,302	5,744	8,119	1,443	2,189	1,171	929	60	35,145	7,943	65,644
Apr 2020	9,917	3,753	5,278	7,539	1,321	2,003	1,098	748	45	31,702	6,996	58,951
May 2020	10,149	3,798	5,390	7,763	1,362	2,084	1,131	750	40	32,467	7,243	60,435
Jun 2020	11,013	4,096	5,733	8,726	1,514	2,489	1,271	883	40	35,765	8,715	68,530
Jul 2020	11,990	4,461	6,287	10,058	1,662	2,731	1,404	967	40	39,600	9,730	76,876
Aug 2020	11,800	4,390	6,169	9,723	1,635	2,688	1,367	956	40	38,768	9,391	74,673
Sep 2020	10,144	3,768	5,380	7,864	1,372	2,160	1,142	775	40	32,645	7,849	62,387
Oct 2020	10,278	3,843	5,468	7,906	1,385	2,093	1,143	764	40	32,920	7,212	61,166
Nov 2020	10,459	4,003	5,410	7,784	1,368	2,083	1,128	894	45	33,174	7,514	62,069
Dec 2020	12,066	4,630	6,035	8,722	1,548	2,388	1,233	1,123	60	37,805	8,768	70,928

	AEP	APS	ATSI	COMED	DAYTON	DEOK	DLCO	EKPC	OVEC	WESTERN	DOM	PJM RTO
Jan 2021	12,592	4,930	6,179	8,796	1,599	2,468	1,254	1,206	60	39,084	9,356	73,478
Feb 2021	11,124	4,378	5,554	7,829	1,418	2,177	1,121	1,022	60	34,683	8,200	65,179
Mar 2021	11,248	4,461	5,801	8,188	1,457	2,210	1,185	952	60	35,562	8,087	66,415
Apr 2021	9,934	3,849	5,274	7,534	1,320	2,004	1,096	751	45	31,807	7,095	59,091
May 2021	10,182	3,897	5,393	7,759	1,363	2,088	1,130	752	40	32,604	7,348	60,621
Jun 2021	11,058	4,195	5,743	8,736	1,517	2,496	1,272	885	40	35,942	8,821	68,776
Jul 2021	12,023	4,557	6,281	10,070	1,662	2,738	1,403	970	40	39,744	9,844	77,042
Aug 2021	11,916	4,513	6,214	9,786	1,652	2,710	1,375	962	40	39,168	9,545	75,306
Sep 2021	10,198	3,872	5,392	7,885	1,377	2,171	1,143	778	40	32,856	7,985	62,728
Oct 2021	10,317	3,946	5,471	7,927	1,388	2,100	1,143	766	40	33,098	7,357	61,469
Nov 2021	10,596	4,137	5,457	7,851	1,385	2,106	1,136	900	45	33,613	7,699	62,822
Dec 2021	12,147	4,749	6,055	8,758	1,554	2,403	1,235	1,129	60	38,090	8,945	71,434

Notes:
All forecast values represent metered energy, after reductions for distributed solar generation.

Table E-3

MONTHLY NET ENERGY FORECAST (GWh) FOR FE-EAST AND PLGRP

	FE_EAST	PLGRP
Jan 2019	5,092	4,088
Feb 2019	4,532	3,610
Mar 2019	4,603	3,596
Apr 2019	4,186	3,177
May 2019	4,287	3,185
Jun 2019	4,753	3,344
Jul 2019	5,439	3,754
Aug 2019	5,281	3,664
Sep 2019	4,389	3,163
Oct 2019	4,367	3,255
Nov 2019	4,383	3,386
Dec 2019	4,884	3,865

	FE_EAST	PLGRP
Jan 2020	5,070	4,078
Feb 2020	4,661	3,720
Mar 2020	4,593	3,600
Apr 2020	4,154	3,161
May 2020	4,249	3,160
Jun 2020	4,744	3,354
Jul 2020	5,417	3,747
Aug 2020	5,225	3,627
Sep 2020	4,370	3,154
Oct 2020	4,323	3,224
Nov 2020	4,349	3,366
Dec 2020	4,922	3,887

	FE_EAST	PLGRP
Jan 2021	5,008	4,034
Feb 2021	4,491	3,592
Mar 2021	4,636	3,652
Apr 2021	4,140	3,160
May 2021	4,238	3,161
Jun 2021	4,739	3,362
Jul 2021	5,401	3,743
Aug 2021	5,247	3,655
Sep 2021	4,369	3,163
Oct 2021	4,317	3,227
Nov 2021	4,380	3,399
Dec 2021	4,930	3,902

Notes:
All forecast values represent metered energy, after reductions for distributed solar generation.

Table F-1

PJM RTO HISTORICAL PEAKS
(MW)

SUMMER

YEAR	NORMALIZED BASE	NORMALIZED COOLING	NORMALIZED TOTAL	UNRESTRICTED PEAK	PEAK DATE	TIME
1998				133,275	Tuesday, July 21, 1998	17:00
1999				141,491	Friday, July 30, 1999	17:00
2000	91,068	47,677	138,745	131,798	Wednesday, August 9, 2000	17:00
2001	92,110	50,230	142,340	150,924	Thursday, August 9, 2001	16:00
2002	92,687	54,158	146,845	150,826	Thursday, August 1, 2002	17:00
2003	93,650	53,125	146,775	145,227	Thursday, August 21, 2003	17:00
2004	95,225	53,510	148,735	139,279	Tuesday, August 3, 2004	17:00
2005	95,846	59,127	154,973	155,257	Tuesday, July 26, 2005	16:00
2006	95,311	62,380	157,691	166,929	Wednesday, August 2, 2006	17:00
2007	96,738	63,008	159,746	162,035	Wednesday, August 8, 2007	16:00
2008	97,213	62,829	160,042	150,622	Monday, June 9, 2008	17:00
2009	94,732	57,483	152,215	145,112	Monday, August 10, 2009	16:00
2010	93,191	61,400	154,591	157,247	Wednesday, July 7, 2010	17:00
2011	93,397	60,235	153,632	165,524	Thursday, July 21, 2011	17:00
2012	93,024	61,325	154,349	158,219	Tuesday, July 17, 2012	17:00
2013	92,558	57,585	150,143	159,149	Thursday, July 18, 2013	17:00
2014	91,934	58,607	150,541	141,509	Tuesday, June 17, 2014	18:00
2015	91,214	58,946	150,160	143,579	Tuesday, July 28, 2015	17:00
2016	89,900	60,394	150,294	152,069	Thursday, August 11, 2016	16:00
2017	88,999	58,056	147,055	145,434	Wednesday, July 19, 2017	18:00
2018	89,895	57,555	147,450	150,565	Tuesday, August 28, 2018	17:00

Notes:
Normalized values for 2000 - 2018 are calculated by PJM staff using a methodology described in Manual 19.
Normalized base values are calculated by PJM staff using a two-period average of peak loads on non-heating/non-coolong days.
All times are shown in hour ending Eastern Prevailing Time and historic peak values reflect current membership of the PJM RTO.

Table F-1

PJM RTO HISTORICAL PEAKS
(MW)

WINTER

YEAR	NORMALIZED BASE	NORMALIZED HEATING	NORMALIZED TOTAL	UNRESTRICTED PEAK	PEAK DATE	TIME
97/98				103,231	Wednesday, January 14, 1998	19:00
98/99				116,086	Tuesday, January 5, 1999	19:00
99/00			115,830	118,435	Thursday, January 27, 2000	20:00
00/01	91,321	26,569	117,890	118,046	Wednesday, December 20, 2000	19:00
01/02	92,407	23,753	116,160	112,217	Wednesday, January 2, 2002	19:00
02/03	92,588	28,002	120,590	129,965	Thursday, January 23, 2003	19:00
03/04	93,708	29,257	122,965	122,424	Friday, January 23, 2004	9:00
04/05	94,459	30,143	124,602	131,234	Monday, December 20, 2004	19:00
05/06	94,722	32,413	127,135	126,777	Wednesday, December 14, 2005	19:00
06/07	96,149	34,179	130,328	136,804	Monday, February 5, 2007	20:00
07/08	97,256	35,050	132,306	128,368	Wednesday, January 2, 2008	19:00
08/09	96,400	32,921	129,321	134,077	Friday, January 16, 2009	19:00
09/10	93,495	35,119	128,614	125,350	Monday, January 4, 2010	19:00
10/11	91,894	37,153	129,047	132,315	Tuesday, December 14, 2010	19:00
11/12	92,368	34,226	126,594	124,506	Tuesday, January 3, 2012	19:00
12/13	92,141	34,145	126,286	128,810	Tuesday, January 22, 2013	19:00
13/14	91,203	38,252	129,455	141,866	Tuesday, January 7, 2014	19:00
14/15	90,273	38,339	128,612	142,856	Friday, February 20, 2015	8:00
15/16	89,742	37,326	127,068	129,540	Tuesday, January 19, 2016	8:00
16/17	89,185	36,578	125,763	130,825	Thursday, December 15, 2016	19:00
17/18	89,209	38,710	127,919	137,212	Friday, January 5, 2018	19:00

Notes:
Normalized values for 2000 - 2018 are calculated by PJM staff using a methodology described in Manual 19.
Normalized base values are calculated by PJM staff using a two-period average of peak loads on non-heating/non-coolong days.
All times are shown in hour ending Eastern Prevailing Time and historic peak values reflect current membership of the PJM RTO.

Table F-2

PJM RTO HISTORICAL NET ENERGY
(GWH)

YEAR	ENERGY	GROWTH RATE
1998	718,248	2.4%
1999	740,056	3.0%
2000	756,211	2.2%
2001	754,516	-0.2%
2002	782,275	3.7%
2003	780,666	-0.2%
2004	796,702	2.1%
2005	823,342	3.3%
2006	802,984	-2.5%
2007	836,241	4.1%
2008	822,608	-1.6%
2009	781,270	-5.0%
2010	820,038	5.0%
2011	805,911	-1.7%
2012	791,768	-1.8%
2013	795,098	0.4%
2014	796,228	0.1%
2015	791,580	-0.6%
2016	791,176	-0.1%
2017	772,291	-2.4%

Note: All historic net energy values reflect the current membership of the PJM RTO.

Table F-3

WEATHER NORMALIZED LOAD (MW) FOR EACH PJM ZONE, LOCATIONAL DELIVERABILITY AREA AND RTO

	Summer 2018	Winter 2017/18
AE	2,460	1,570
BGE	6,360	5,730
DPL	3,870	3,530
JCPL	5,810	3,650
METED	2,930	2,630
PECO	8,430	6,630
PENLC	2,860	2,820
PEPCO	6,040	5,300
PL	6,930	7,150
PS	9,750	6,550
RECO	405	210
UGI	195	200
AEP	22,060	21,540
APS	8,480	8,660
ATSI	12,350	10,320
COMED	21,160	14,980
DAYTON	3,250	2,910
DEOK	5,140	4,400
DLCO	2,720	2,040
EKPC	1,980	2,440
OVEC	65	84
DOM	18,820	18,480
PJM MID-ATLANTIC	55,495	45,295
PJM WESTERN	76,150	66,004
PJM RTO	147,450	127,919

Notes:
Zonal Normal 2018 are non-coincident as estimated by PJM staff.
Locational Deliverability Area and PJM RTO Normal 2018 are coincident with their regional peak as estimated by PJM staff.

Table G-1

ANNUALIZED AVERAGE GROWTH OF INDEXED ECONOMIC VARIABLE FOR EACH PJM ZONE AND RTO

	5-Year (2019-24)	10-Year (2019-29)	15-Year (2019-34)
AE	0.6%	0.6%	0.7%
BGE	0.8%	0.9%	0.9%
DPL	1.2%	1.3%	1.3%
JCPL	0.9%	0.9%	0.9%
METED	1.4%	1.4%	1.3%
PECO	1.3%	1.3%	1.2%
PENLC	1.0%	1.0%	1.0%
PEPCO	1.1%	1.2%	1.2%
PL	1.2%	1.2%	1.2%
PS	0.9%	0.9%	0.9%
RECO	0.8%	0.8%	0.8%
UGI	0.6%	0.6%	0.6%
AEP	1.5%	1.4%	1.4%
APS	1.4%	1.4%	1.4%
ATSI	1.1%	1.1%	1.1%
COMED	1.2%	1.2%	1.1%
DAYTON	1.1%	1.1%	1.1%
DEOK	1.3%	1.3%	1.3%
DLCO	1.1%	1.0%	1.0%
EKPC	1.3%	1.3%	1.3%
DOM	1.2%	1.2%	1.3%
PJM RTO	1.2%	1.2%	1.2%

Source: Moody's Analytics, September, 2018

Notes:
Values presented are annualized compound average growth rates.
Indexed economic variable is a combination of U.S. Gross Domestic Product, Gross Metropolitan Product, Real Personal Income, Population, Households, and Non-Manufacturing Employment.