

2025

# **PJM Long-Term Load Forecast Report**

Posted Date: January 24, 2025

Prepared by PJM Resource Adequacy Planning Department

For Public Use



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# **TO Zones and Subzones**

Abbreviation	Zone Name	Date Incorporated
AE	Atlantic Electric zone	
AEP	American Electric Power zone	Oct. 1, 2004
APP	Appalachian Power, sub-zone of AEP	
APS	Allegheny Power zone	April 1, 2002
ATSI	American Transmission Systems, Inc. zone	June 1, 2011
BGE	Baltimore Gas & Electric zone	
CEI	Cleveland Electric Illuminating, sub-zone of ATSI	
COMED	Commonwealth Edison zone	May 1, 2004
CSP	Columbus Southern Power, sub-zone of AEP	
DAY	Dayton Power & Light zone	Oct. 1, 2004
DEOK	Duke Energy Ohio/Kentucky zone	January 1, 2012
DLCO	Duquesne Lighting Company zone	January 1, 2005
DOM	Dominion Virginia Power zone	May 1, 2005
DPL	Delmarva Power & Light zone	
EKPC	East Kentucky Power Cooperative zone	June 1, 2013
FE-East	The combination of FirstEnergy's Jersey Central Power & Light, Metropolitan Edison, and Pennsylvania Electric zones (formerly GPU)	
INM	Indiana Michigan Power, sub-zone of AEP	
JCP&L	Jersey Central Power & Light zone	
КР	Kentucky Power, sub-zone of AEP	



Abbreviation	Zone Name	Date Incorporated
METED	Metropolitan Edison zone	
MP	Monongahela Power, sub-zone of APS	
OEP	Ohio Edison, sub-zone of ATSI	
ОР	Ohio Power, sub-zone of AEP	
OVEC	Ohio Valley Electric Corporation zone	December 1, 2018
PECO	PECO Energy zone	
PED	Potomac Edison, sub-zone of APS	
PEPCO	Potomac Electric Power zone	
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	
PS	Public Service Electric & Gas zone	
RECO	Rockland Electric (East) zone March 1, 2002	
TOL	Toledo Edison, sub-zone of ATSI	
UGI	UGI Utilities, sub-zone of PLGroup	
WP	West Penn Power, sub-zone of APS	



# Glossary

Term / Abbreviation	Definition			
Battery Storage	Devices that enable generated energy to be stored and then released at a later time.  (Also Battery Energy Storage System – BESS)			
Contractually Interruptible	oad Management from customers responding to direction from a control center			
Cooling Load	The weather-sensitive portion of summer peak load			
Direct Control	Load Management achieved directly by a signal from a control center			
Heating Load	The weather-sensitive portion of winter peak load			
Net Energy	Net Energy for Load, measured as net generation of main generating units plus energy receipts minus energy deliveries			
PRD	Price Responsive Demand			
Unrestricted Peak	Peak load prior to any reduction for load management or voltage reduction.			
Zone	Areas within the PJM Control Area, as defined in the PJM Reliability Assurance Agreement			



### **Executive Summary**

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

- The report includes a 20 year long-term forecasts of peak loads, net energy, load management, distributed solar generation, plug-in electric vehicles, and battery storage for each PJM zone, region, locational deliverability area (LDA), and the total RTO.
- New to the report this year is a table for the total load associated with adjustments to summer peak loads (Table B-9b available on the PJM Website). All tables are now provided in excel format for ease of use.
- Residential, Commercial, and Industrial sector models were estimated with data from 2014 through 2023. Hourly
  models were estimated with data from 2015 to August 2024. Weather scenarios were simulated with data from years
  1993 through 2023, generating 403 scenarios.
- The economic forecast used was Moody's Analytics' September 2024 release.



#### **Energy Information Administration & Vendor Data**

The Energy Information Administration (EIA) did not publish an Annual Energy Outlook (AEO) update in 2024 as they revamp models and make improvements to capture emerging technologies. Therefore, the 2023 update of Itron's end-use data provides the basis for appliance saturation rates, efficiency, and intensity and is consistent with the EIA's 2023 AEO. PJM obtained additional information from certain zones on Residential saturation rates based on their own load research. Details on zones providing information are presented in the supplement.

Consultant forecasts for behind the meter solar/battery and electric vehicles including light, medium & heavy duty were provided by S&P Global.

- The behind the meter solar/battery values were derived by PJM from a forecast obtained from SPGCI
- The electric vehicle values were derived by PJM from a forecast obtained from SPGCI

#### Compared to the 2024 Load Report,

the 2025 PJM RTO summer peak forecast shows the following changes for three years of interest:

Next Year:					
Delivery RPM Auction RTEP Study					
<b>2025</b> <b>+651</b> MW (0.4%)	<b>2026</b> <b>+2,134</b> MW (1.4%)	<b>2030</b> <b>+16,010</b> MW (9.5%)			

#### Load Adjustments

The forecasts of the following zones have been adjusted to account for large, unanticipated load changes, market adjustments, and peak shaving adjustments (see **Tables B-9** and **B-9b** and the supplement for details available on the PJM Website):

Zones	Adjusted to account for:				
AEP	growth in data center load and a chip processing plant				
APS, ATSI, BGE, DAYTON, PECO, and PL	growth in data center load				
COMED	growth in data center load and an electric vehicle battery plant				
DEOK	adjusted to account for growth in a steel facility				
DOM	growth in data center load and a voltage optimization program				
PS	growth in data center load and port electrification				
EKPC	a peak shaving program that commenced in the 2023 DY				
ATSI and DOM	Non-Retail Behind-the-Meter Generation (NRBTMG) transitioning to participation as Demand Response in the Reliability Pricing Model				



#### **Summer & Winter Summary**

#### Summer peak load growth for the PJM RTO

- Projected to average 3.1% per year over the next 10-year period and 2.0% over the next 20 years.
- Summer peak is forecasted to be 209,923 MW in 2035, a 10-year increase of 55,779 MW, and reaches 228,544 MW in 2045, a 20-year increase of 74,400 MW.
- Annualized 10-year growth rates for individual zones range from 0.1% to 6.3%; median of 0.7%.

#### Winter Peak Load Growth - PJM RTO

- Projected to average 3.8% per year over the next 10-year period, and 2.4% over the next 20 years.
- The PJM RTO winter peak load in 2034/35 is forecasted to be 198,175 MW, a 10-year increase of 62,048 MW, and reaches 218,760 MW in 2044/45, a 20-year increase of 82,633 MW.
- Annualized 10-year growth rates for individual zones range from 0.1% to 6.0%; median of 1.6%.

#### Net Energy Load Growth - PJM RTO

- Projected to average 4.8% per year over the next 10-year period, and 2.9% over the next 20-years.
- Total PJM RTO energy is forecasted to be 1,328,045 GWh in 2035, a 10-year increase of 495,264 GWh, and reaches 1,482,068 GWh in 2045, a 20-year increase of 649,287 GWh.
- Annualized 10- year growth rates for individual zones range from 0.2% to 8.4%; median of 1.6%.

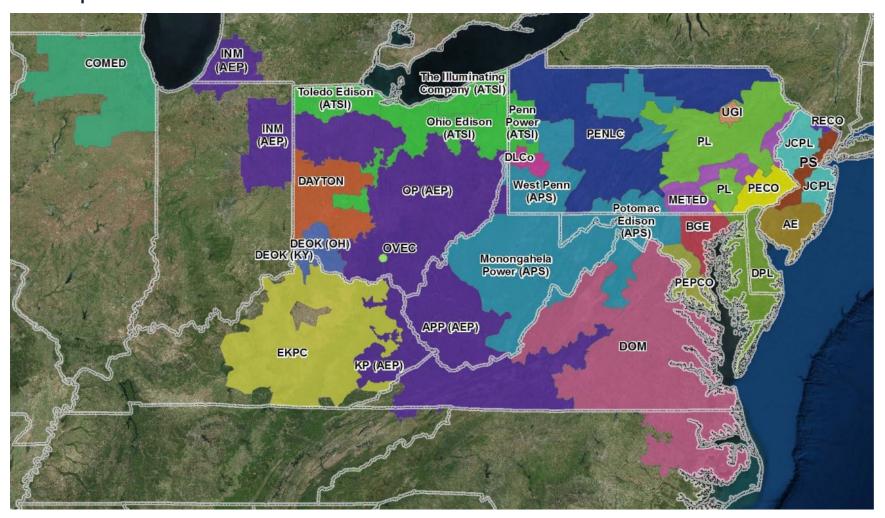
#### NOTE:

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 battery storage (in summer peak), additions for plug-in electric vehicles, and prior to reductions for load management impacts.

All compound growth rates are calculated from the first year of the forecast.



# PJM Map





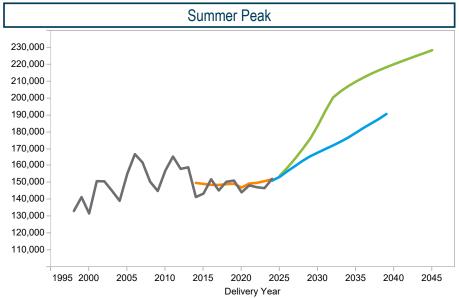
# PJM RTO, LDA, and Zonal Dashboards

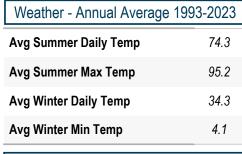
Click below to jump to an LDA or PJM Zone's data page					
PJM RTO	MAAC	E-MAAC	S-MAAC	PJM Western	
AE	BGE	DPL	JCPL	METED	
PECO	PENLC	PEPCO	PL	PS	
RECO	UGI	AEP	APS	ATSI	
COMED	DAYTON	DEOK	DLCO	EKPC	
DOM					

# **PJM RTO**

SUMMER

WINTER





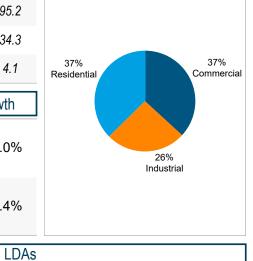
Zonal 10/15/20 Year Load Growth

2.4%

2.9%

3.1%

3.8%



RCI Makeup

	Winter Peak									
230,000										
220,000										
210,000										
200,000										
190,000										
180,000									_	
170,000										
160,000							/ /			
150,000										
140,000				$\Lambda$	٦.					
130,000	^	<b>~</b> ^	$\sim$		+1					
120,000		•			V					
110,000	_									
	1995 2000	2005	2010	2015	2020 Delivery Y	2025 ⁄ear	2030	2035	2040	2045
Peak		WN p	eak		Forecast	2024	For	ecast 20	25	

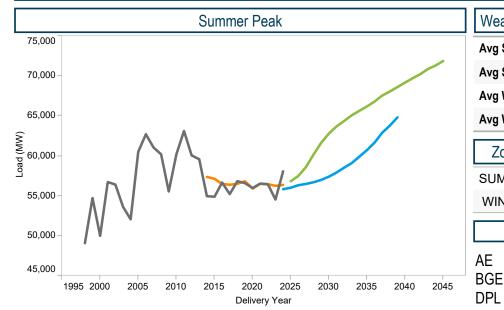
PJM Mid-Atlantic	Central MAAC
Eastern MAAC	Western MAAC
Southern MAAC	PJM West

2.0%

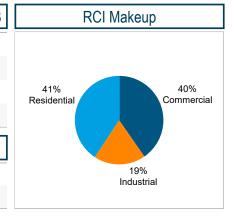
2.4%

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 (MAAC)**



Weather - Annual Average 1	993-2023
Avg Summer Daily Temp	74.8
Avg Summer Max Temp	96.3
Avg Winter Daily Temp	35.1
Avg Winter Min Temp	6.6



**LDAs** 

Zonal 10/15/20 Year Load Growth					
SUMMER 1.5% 1.3% 1.2%					
WINTER	2.7%	2.2%	1.9%		

PL

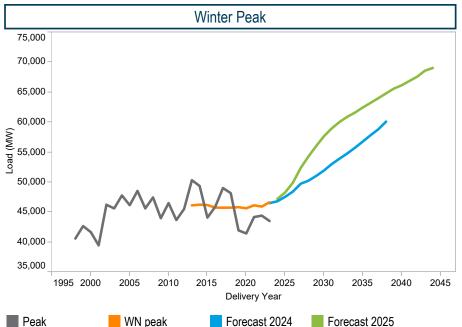
**PECO** 

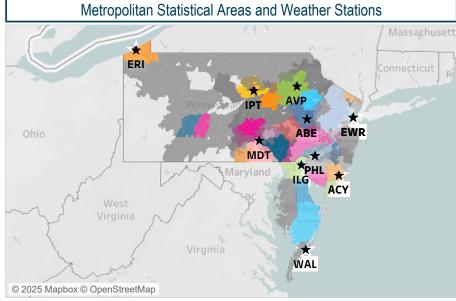
JCPL PENLC PSEG METED PEPCO RECO

UGI

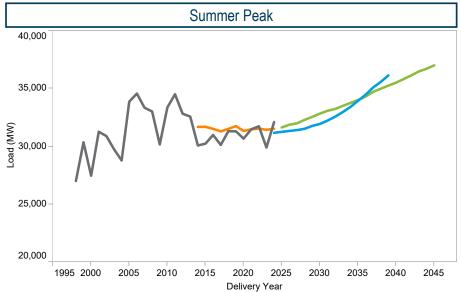
E-MAAC S-MAAC

C-MAAC W-MAAC

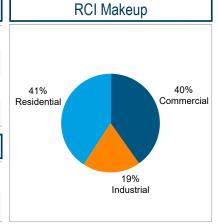




# PJM Eastern Mid-Atlantic (E-MAAC)



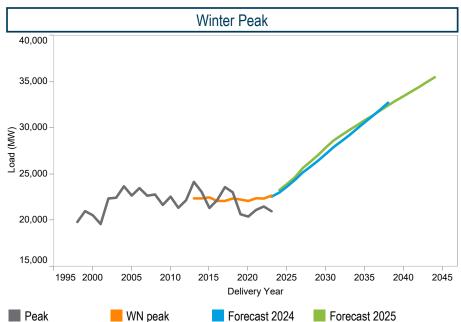
Weather - Annual Average 199	93-2023
Avg Summer Daily Temp	75.7
Avg Summer Max Temp	97.5
Avg Winter Daily Temp	36.4
Avg Winter Min Temp	7.9

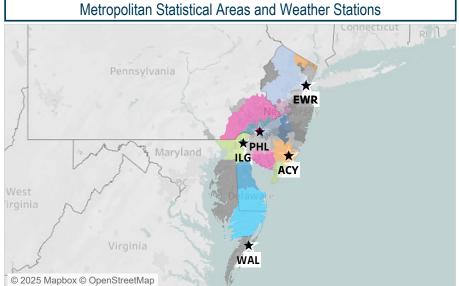


Zonai 10/15/20 Year Load Growth			
SUMMER	0.7%	0.8%	0.8%
WINTER	2.7%	2.3%	2.1%

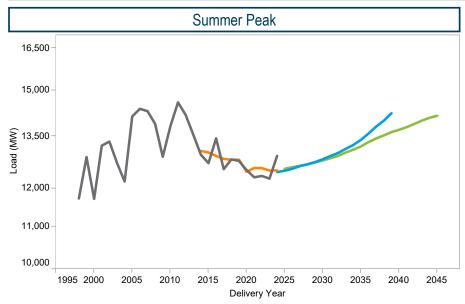
Zones

AE DPL JCPL PECO PS RECO

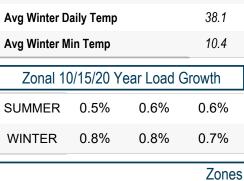


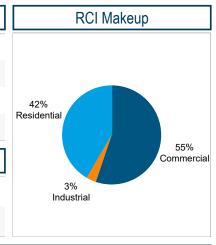


# PJM Southern Mid-Atlantic (S-MAAC)

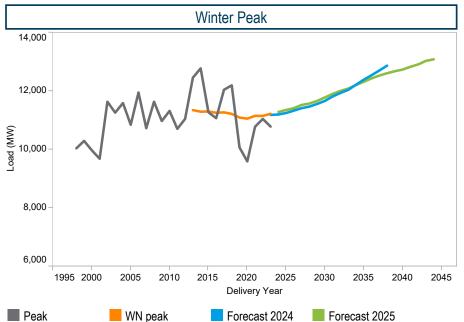


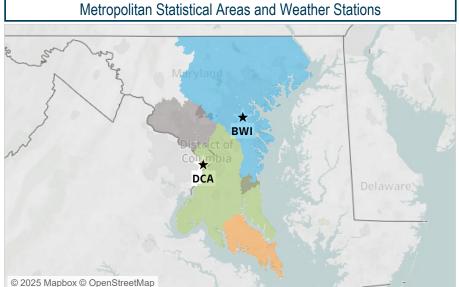
Weather - Annual Average	1993-2023
Avg Summer Daily Temp	77.1
Avg Summer Max Temp	98.0
Avg Winter Daily Temp	38.1
Avg Winter Min Temp	10.4



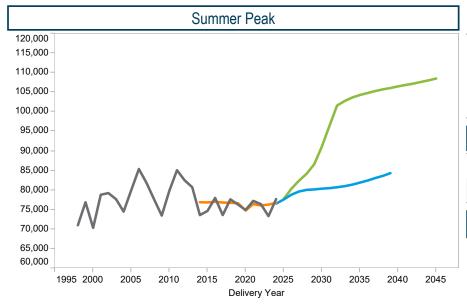


BGE PEPCO



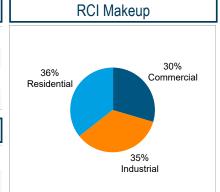


# **PJM Western**



#### Weather - Annual Average 1993-2023 **Avg Summer Daily Temp** 73.2 **Avg Summer Max Temp** 93.2

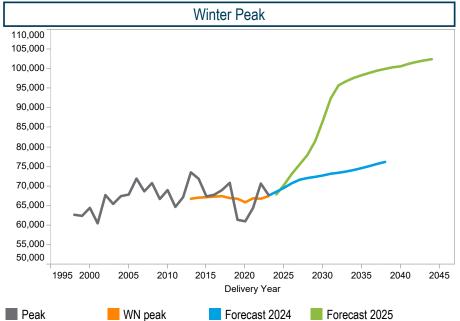




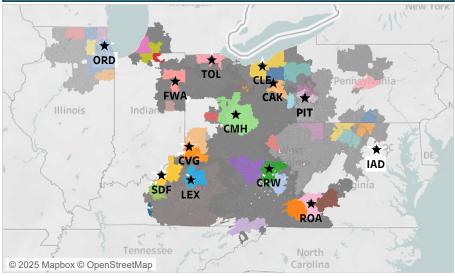
SUMMER	3.0%	2.1%	1.7%
WINTER	3.7%	2.6%	2.1%

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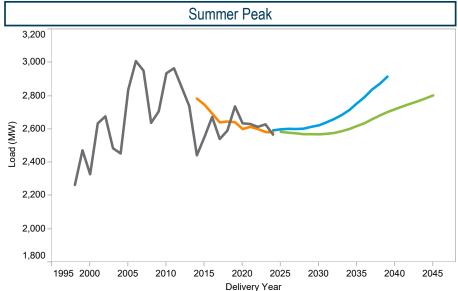
AEP	COMED	DLCO
APS	DAYTON	EKPC
ATSI	DEOK	OVEC

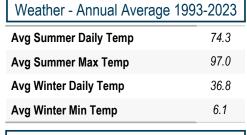


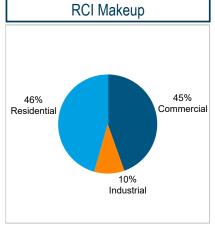
#### Metropolitan Statistical Areas and Weather Stations



# **Atlantic Electric (AE)**







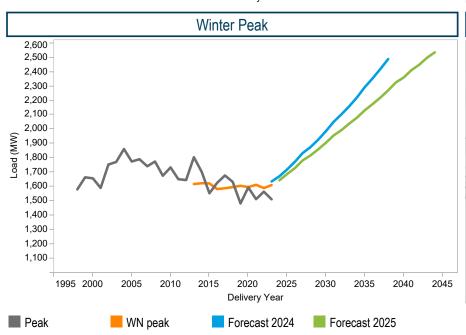
# Zonal 10/15/20 Year Load Growth

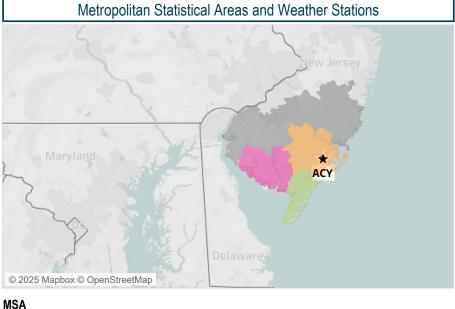
SUMMER 0.1% 0.3% 0.4%

WINTER 2.4% 2.3% 2.2%

LDAs

#### EASTERN MID-ATLANTIC PJM MID-ATLANTIC PJM RTO





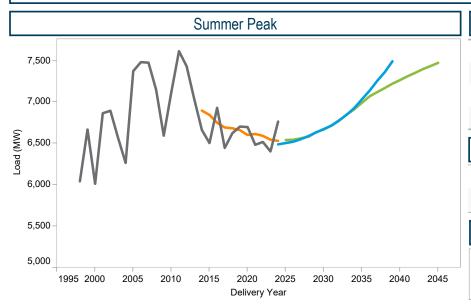
Ocean City, NJ

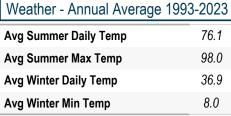
Vineland-Bridgeton, NJ

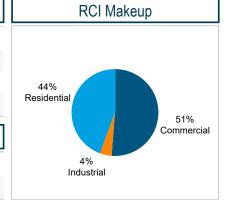
AE - Non-Metro

Atlantic City-Hammonton, NJ

# **Baltimore Gas & Electric (BGE)**







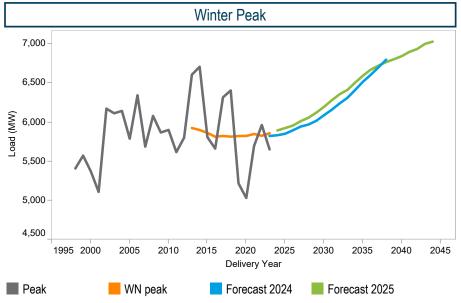
Zonal	10/15/20	Year	Load	Growth

 SUMMER
 0.7%
 0.7%
 0.7%

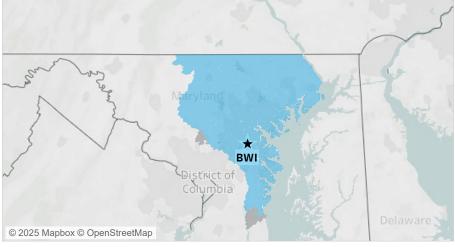
 WINTER
 1.0%
 1.0%
 0.9%

**LDAs** 

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



#### Metropolitan Statistical Areas and Weather Stations

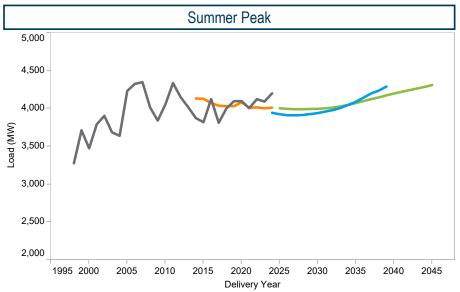


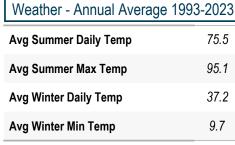
#### MSA

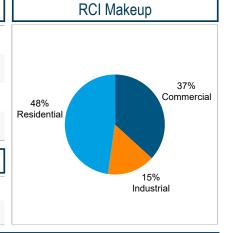
Baltimore-Columbia-Towson, MD

BGE - Non-Metro

# **Delmarva Power and Light (DPL)**



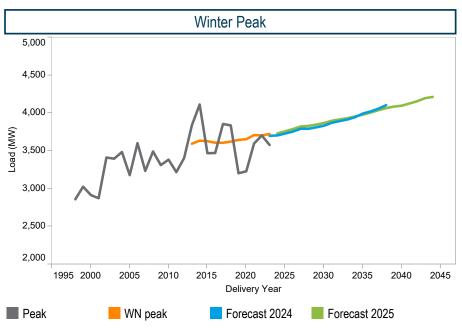


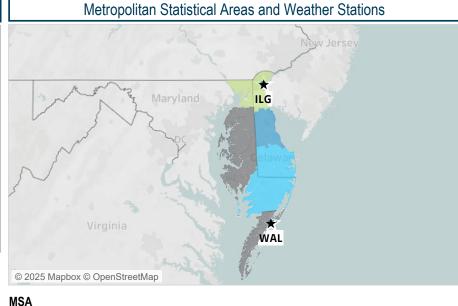


Zonal 10/15/20 Year Load Growth			
SUMMER	0.2%	0.3%	0.4%
WINTER	0.6%	0.6%	0.6%

#### EASTERN MID-ATLANTIC PJM MID-ATLANTIC PJM RTO

**LDAs** 





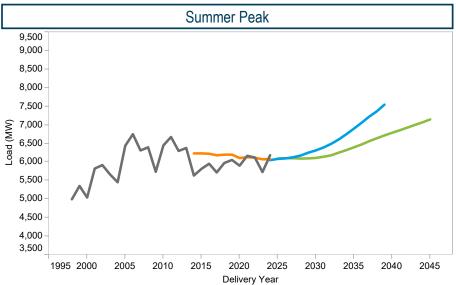
Salisbury, MD-DE

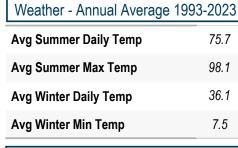
Wilmington, DE-MD-NJ

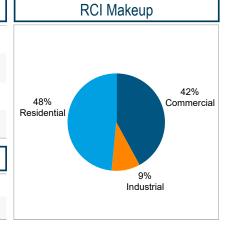
Dover, DE

DPL - Non-Metro

# **Jersey Central Power and Light (JCPL)**







Zonal 10/15/20 Year Load Growth			
SUMMER	0.5%	0.7%	0.8%
WINTER	3.9%	3.6%	3.3%

#### EASTERN MID-ATLANTIC GPU PJM MID-ATLANTIC PJM RTO

**LDAs** 

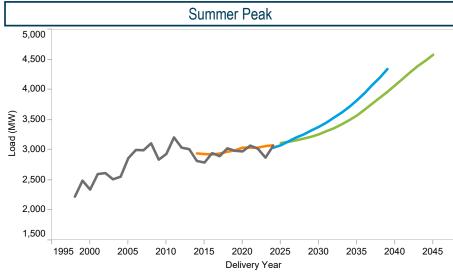
#### Winter Peak 8,000 7,500 7,000 6,500 6,000 Load (MW) 5,500 5,000 4,500 4,000 3,500 3,000 2,500 2015 2025 2045 1995 2000 2005 2010 2020 2030 2035 2040 **Delivery Year** Peak WN peak Forecast 2024 Forecast 2025





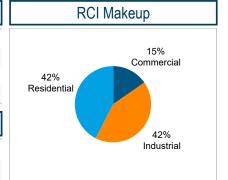
ACY

# **Metropolitan Edison (METED)**



# Weather - Annual Average 1993-2023Avg Summer Daily Temp74.7Avg Summer Max Temp95.8Avg Winter Daily Temp34.6Avg Winter Min Temp6.7

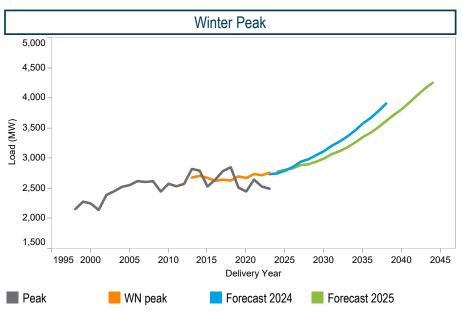
Zonal 10/15/20 Year Load Growth			
SUMMER	1.4%	1.8%	1.9%
WINTER	1.6%	2.0%	2.1%



#### **LDAs**

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

Metropolitan Statistical Areas and Weather Stations

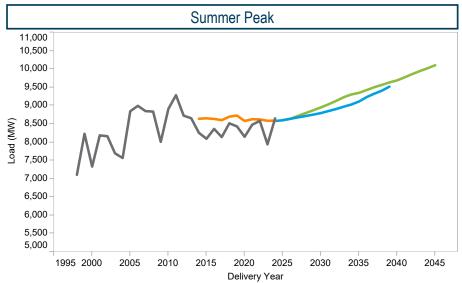


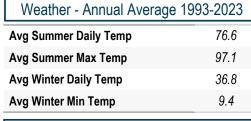
# Pennsylvania ABE New Jersey

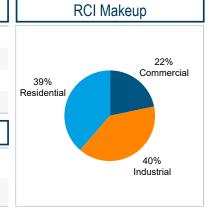


PHL

# PECO Energy (PECO)



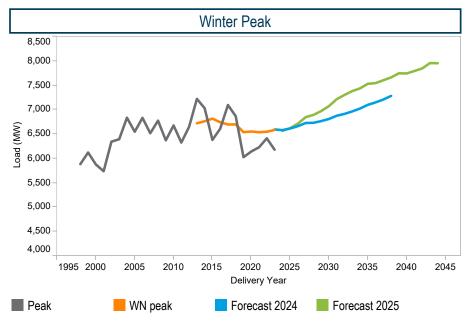




Zonal 10/15/20 Year Load Growth			
SUMMER	0.8%	0.8%	0.8%
WINTER	1.3%	1.1%	1.0%

LDAs

#### EASTERN MID-ATLANTIC PJM MID-ATLANTIC PJM RTO



#### Metropolitan Statistical Areas and Weather Stations



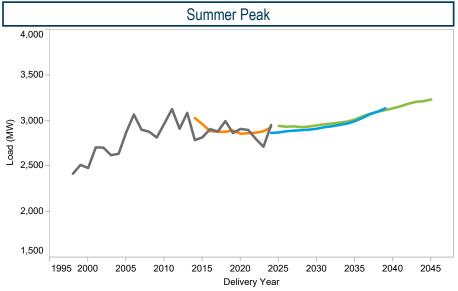
MSA

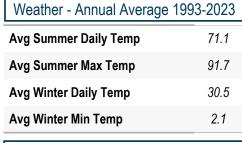
Montgomery County-Bucks County-Chester County, PA

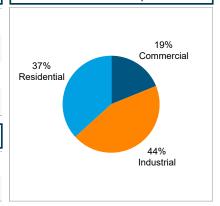
PECO - Non-Metro

Philadelphia, PA

# Pennsylvania Electric Company (PENLC)







**RCI** Makeup

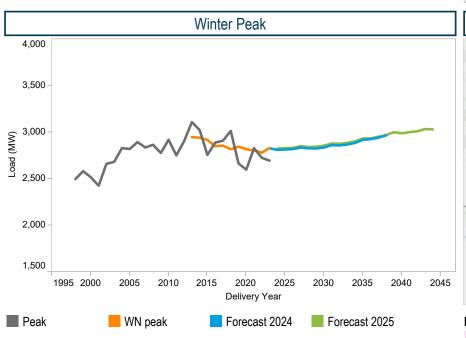
Zonal 10/15/20 Year Load Growth

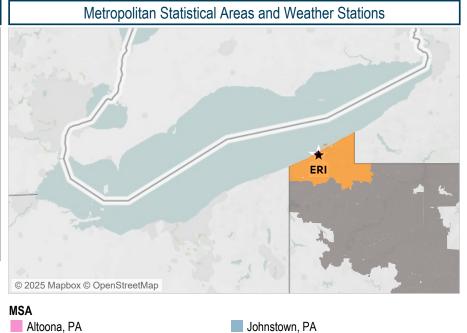
SUMMER 0.2% 0.4% 0.5%

WINTER 0.3% 0.4% 0.4%

LDAs

#### GPU PJM MID-ATLANTIC PJM RTO WESTERN MID-ATLANTIC

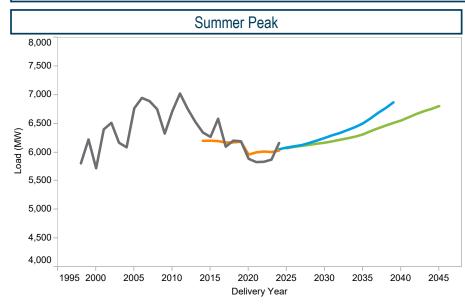


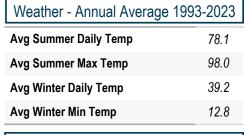


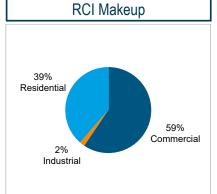
PENLC - Non-Metro

Erie, PA

# **Potomac Electric Power (PEPCO)**



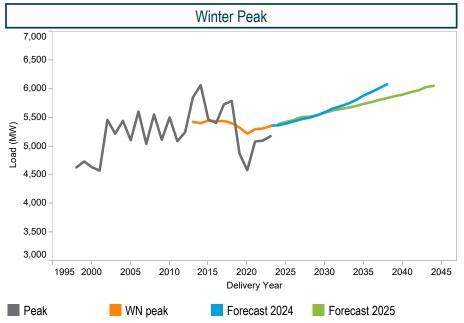




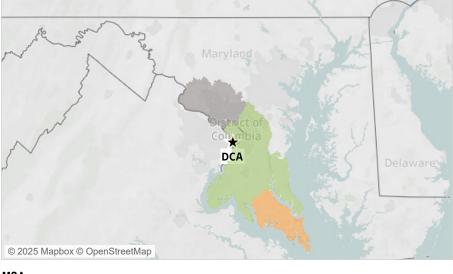
Zonal 10	/15/20 Ye	ear Load (	Growth
SUMMER	0.4%	0.5%	0.6%
WINTER	0.6%	0.6%	0.6%

LDAs

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



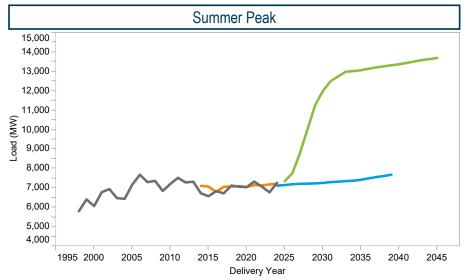
#### Metropolitan Statistical Areas and Weather Stations



MSA
California-Lexington Park, MD
PEPCO - Non-Metro

Washington-Arlington-Alexandria, DC-VA-..

# **PPL Electric Utilities (PL)**







4.1%

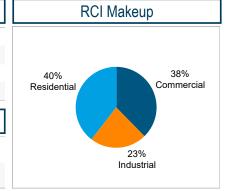
4.0%

5.9%

5.8%

**SUMMER** 

**WINTER** 

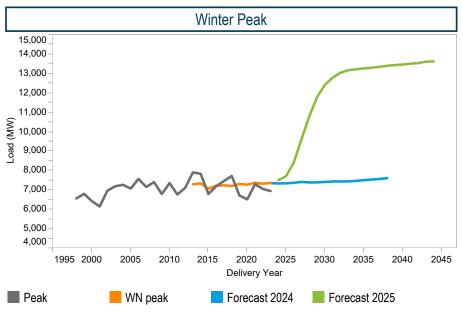


#### **LDAs**

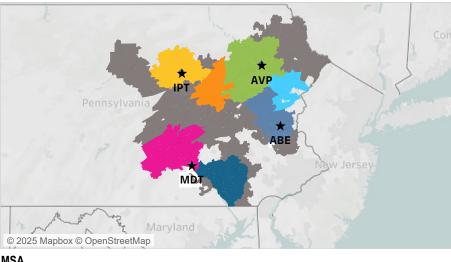
CENTRAL MID-ATLANTIC PJM MID-ATLANTIC PJM RTO PLGRP WESTERN MID-ATLANTIC

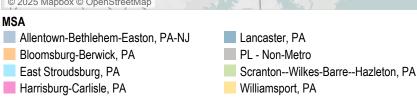
3.2%

3.0%

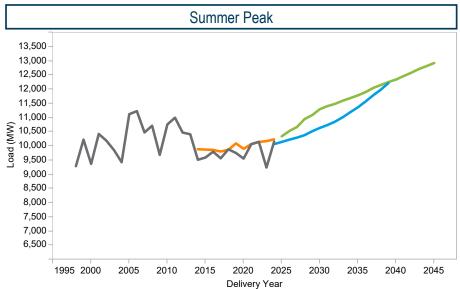


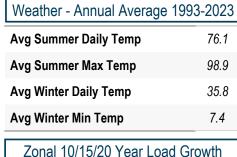
#### Metropolitan Statistical Areas and Weather Stations

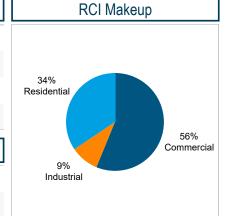




# **Public Service Electric & Gas (PS)**







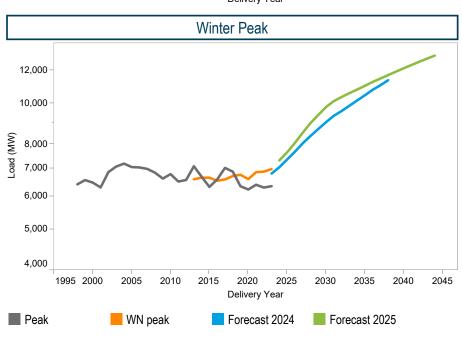
Zonai 10/15/20 Year Load Growth

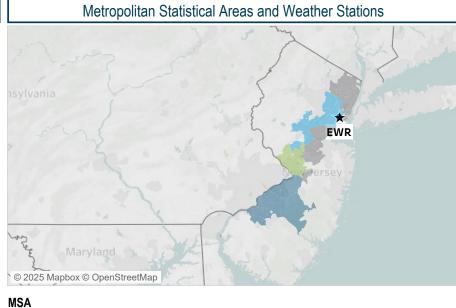
SUMMER 1.3% 1.2% 1.1%

WINTER 4.0% 3.3% 2.9%

**LDAs** 

#### EASTERN MID-ATLANTIC PJM MID-ATLANTIC PJM RTO





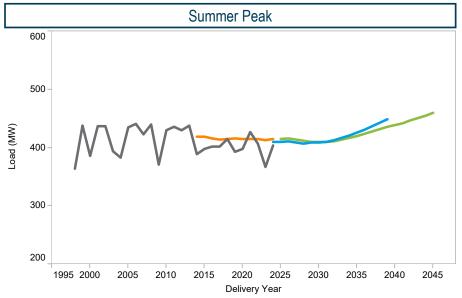
PS - Non-Metro

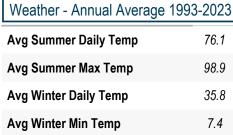
Trenton, NJ

Camden, NJ

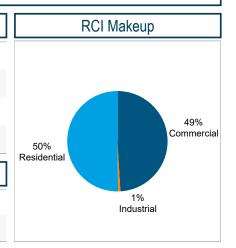
Newark, NJ-PA

# **Rockland Electric Company (RECO)**



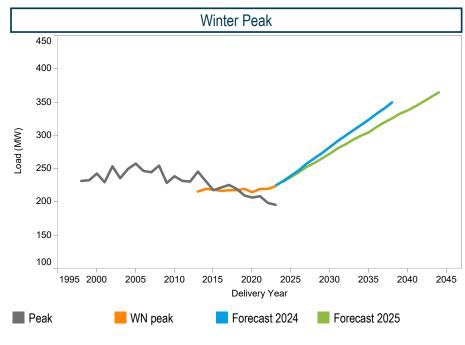


Zonal 10/15/20 Year Load Growth			
SUMMER	0.1%	0.4%	0.5%
WINTER	2.6%	2.5%	2.3%

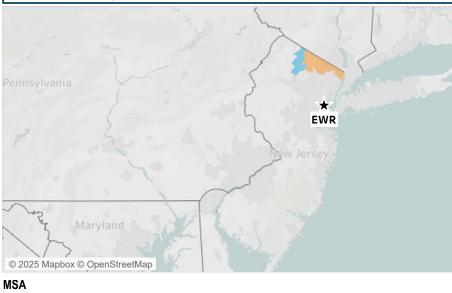


#### **LDAs**

#### EASTERN MID-ATLANTIC PJM MID-ATLANTIC PJM RTO



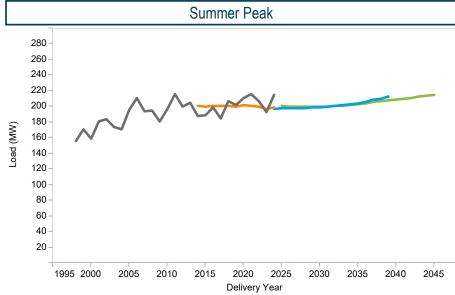
# Metropolitan Statistical Areas and Weather Stations

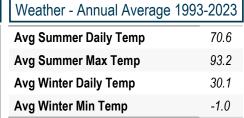


New York-Jersey City-White Plains, NY-NJ

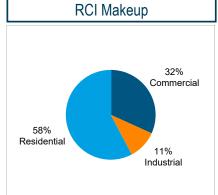
Newark, NJ-PA

# **UGI Energy Services (UGI)**



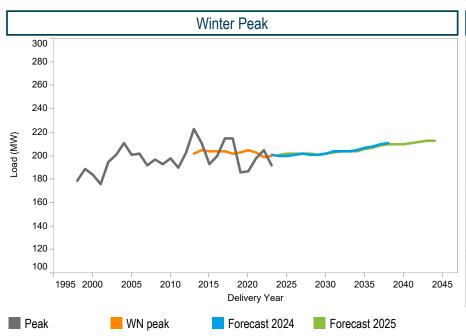


Zonal 10/15/20 Year Load Growth			
SUMMER	0.1%	0.3%	0.3%
WINTER	0.1%	0.3%	0.3%

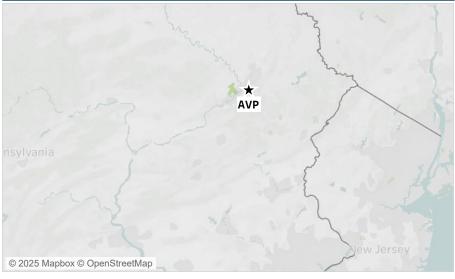


#### **LDAs**

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



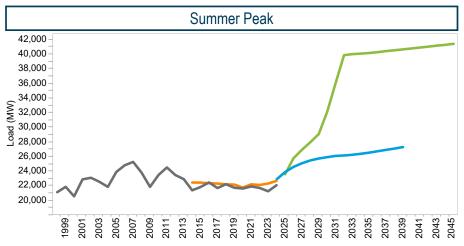
# Metropolitan Statistical Areas and Weather Stations



MSA

Scranton--Wilkes-Barre--Hazleton, PA

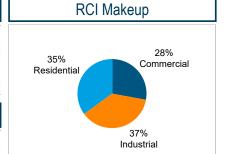
# **American Electric Power (AEP)**



#### Weather - Annual Average 1993-2023

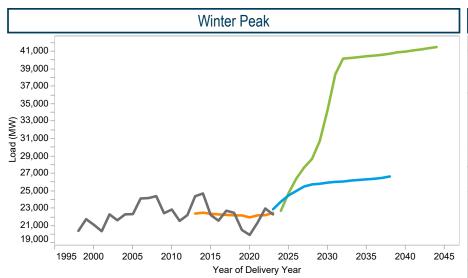
Avg Summer Daily Temp	73.2
Avg Summer Max Temp	92.3
Avg Winter Daily Temp	33.4
Avg Winter Min Temp	2.9

Zonal 10/15/20 Year Load Growth					
SUMMER	5.5%	3.7%	2.9%		
WINTER	5.9%	4 0%	3 1%		

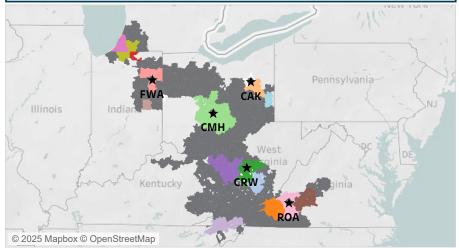


#### **LDAs**

#### PJM RTO PJM WESTERN



#### Metropolitan Statistical Areas and Weather Stations



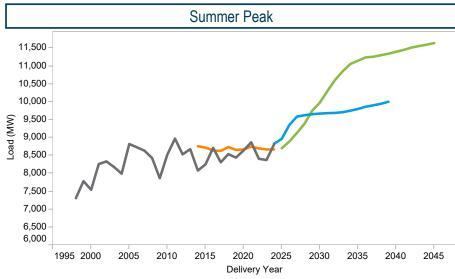




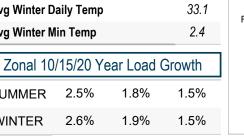


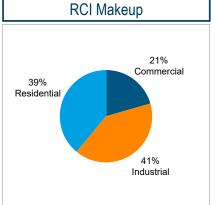


# **Allegheny Power Systems (APS)**



#### Weather - Annual Average 1993-2023 72.8 **Avg Summer Daily Temp** 92.6 **Avg Summer Max Temp** 33.1 **Avg Winter Daily Temp Avg Winter Min Temp**





# **LDAs**

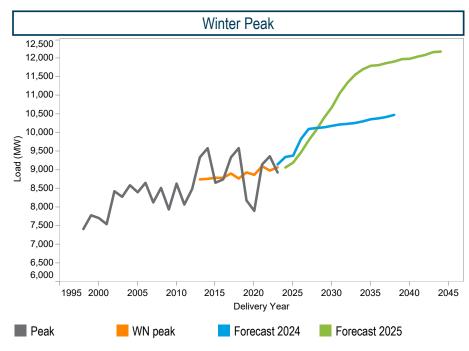
#### PJM RTO PJM WESTERN

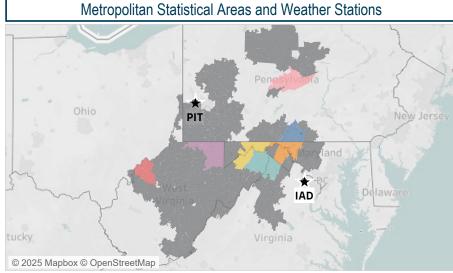
2.5%

2.6%

**SUMMER** 

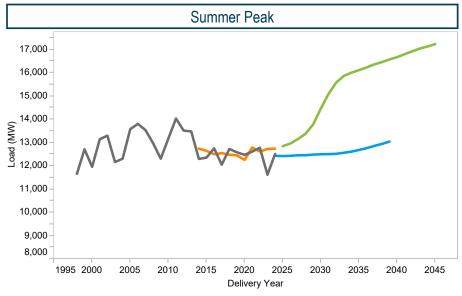
WINTER



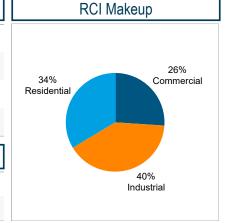




# **American Transmission Systems, Inc (ATSI)**



# Weather - Annual Average 1993-2023Avg Summer Daily Temp71.6Avg Summer Max Temp91.9Avg Winter Daily Temp30.2Avg Winter Min Temp-1.0



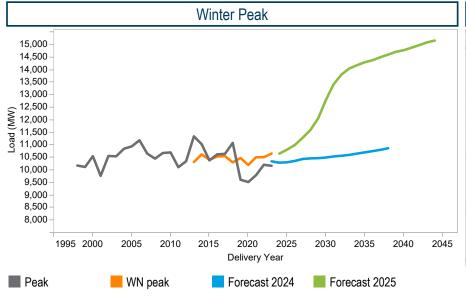
#### Zonal 10/15/20 Year Load Growth

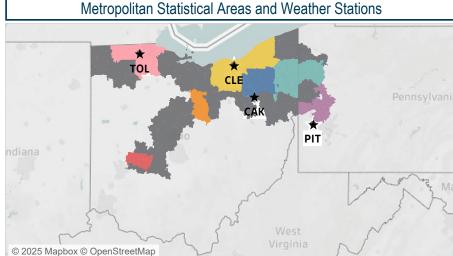
 SUMMER
 2.3%
 1.8%
 1.5%

 WINTER
 2.9%
 2.2%
 1.8%

LDAs

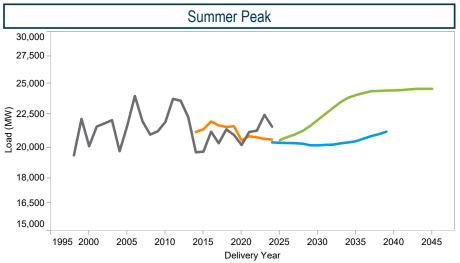
#### **PJM RTO PJM WESTERN**

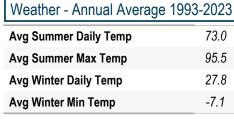


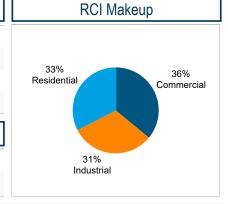




# **Commonwealth Edison (COMED)**







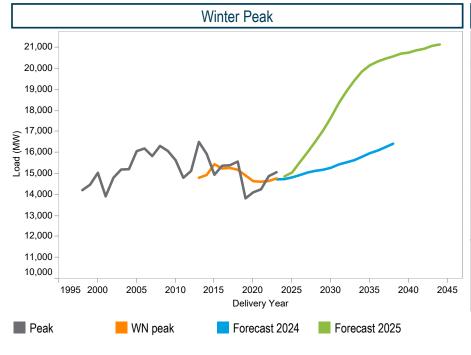
Zonal	10/15/20	Year	Load	Growth

 SUMMER
 1.6%
 1.2%
 0.9%

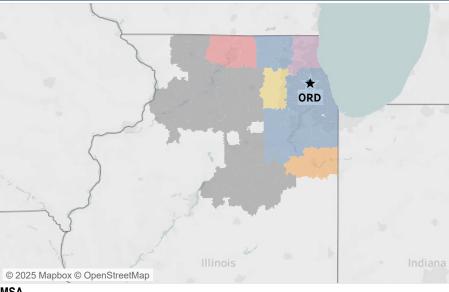
 WINTER
 2.9%
 2.2%
 1.8%

**LDAs** 

#### **PJM RTO PJM WESTERN**



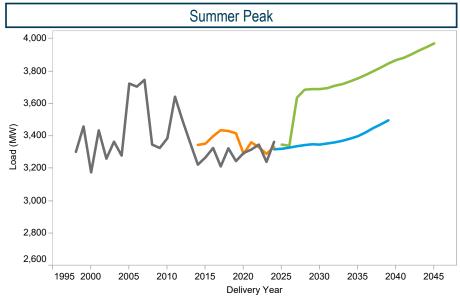


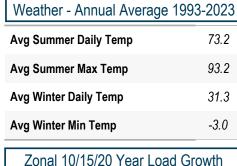


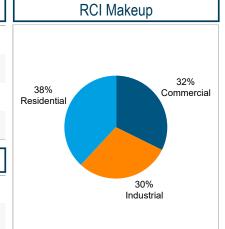


Kankakee, IL
Lake County-Kenosha County, IL-WI
Rockford, IL

# **Dayton Power and Light (DAYTON)**







WINTER 1.3% 1.0% 0.9%

1.0%

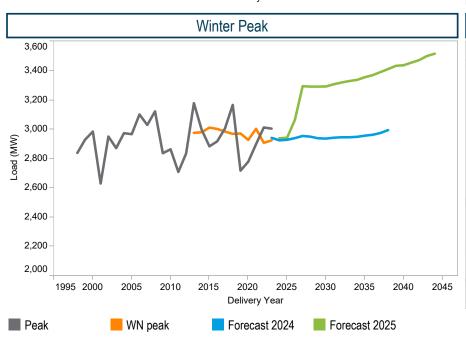
LDAs

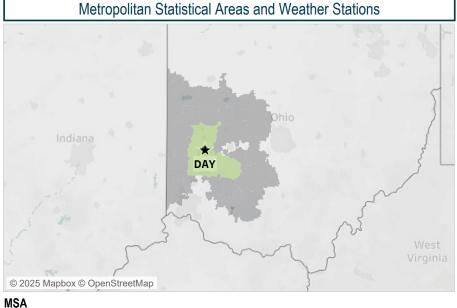
0.9%

#### **PJM RTO PJM WESTERN**

1.2%

SUMMER

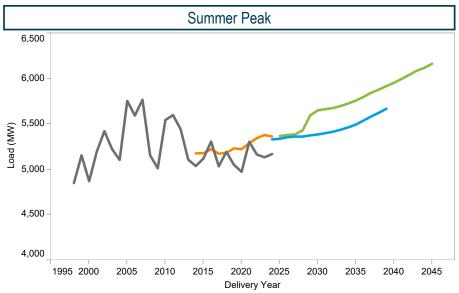


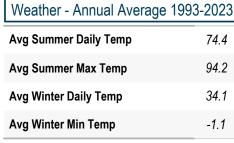


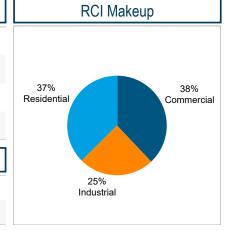
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DAY - Non-Metro
Dayton, OH

# **Duke Energy Ohio and Kentucky (DEOK)**

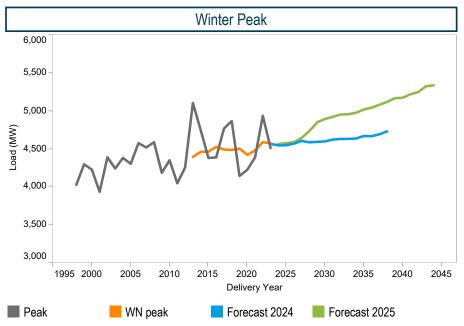






Zonai 10/15/20 Year Load Growth				
SUMMER	0.7%	0.7%	0.7%	
WINTER	0.9%	0.8%	0.8%	

#### PJM RTO PJM WESTERN

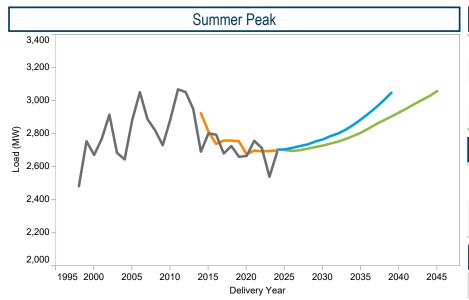


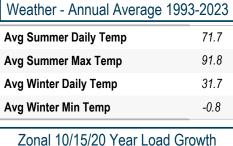


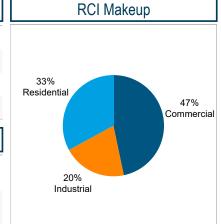
**LDAs** 

DEOK - Non-Metro

# **Duquesne Light Company (DLCO)**





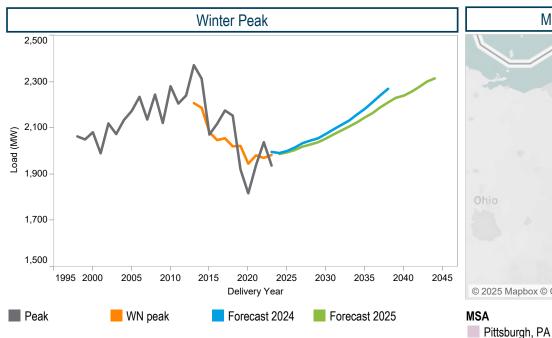


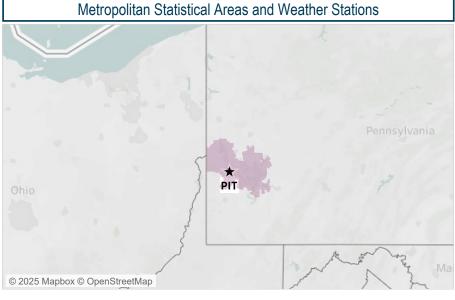
SUMMER 0.4% 0.5% 0.6%

WINTER 0.7% 0.8% 0.8%

LDAs

#### **PJM RTO PJM WESTERN**



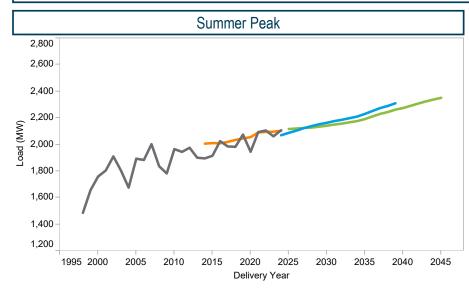


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# **East Kentucky Power Cooperative (EKPC)**

**SUMMER** 

**WINTER** 



#### Weather - Annual Average 1993-2023 **Avg Summer Daily Temp** 75.5 94.4 **Avg Summer Max Temp Avg Winter Daily Temp** 36.1 **Avg Winter Min Temp** 2.4

0.5%

0.4%



**RCI** Makeup

14%

Commercial

30%

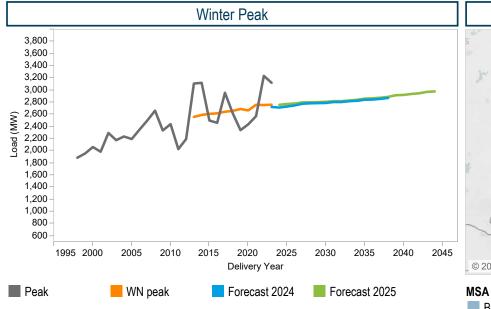
Industrial

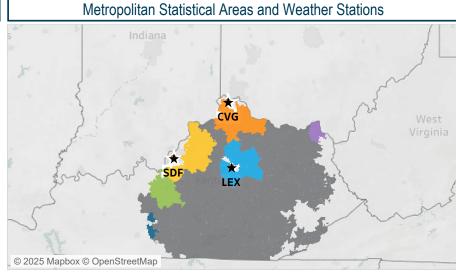
# **LDAs**

#### PJM RTO PJM WESTERN

0.3%

0.3%





Huntington-Ashland, WV-KY-OH Lexington-Fayette, KY

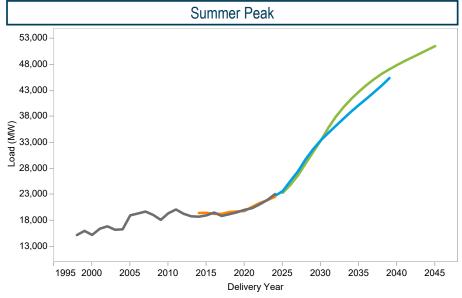
Louisville/Jefferson County, KY-IN

Bowling Green, KY

Cincinnati, OH-KY-IN EKPC - Non-Metro

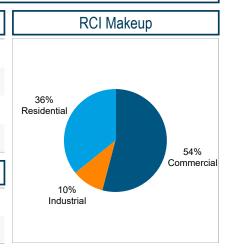
Elizabethtown-Fort Knox, KY

# **Dominion (DOM)**



# Weather - Annual Average 1993-2023Avg Summer Daily Temp77.0Avg Summer Max Temp97.0Avg Winter Daily Temp40.5Avg Winter Min Temp12.4

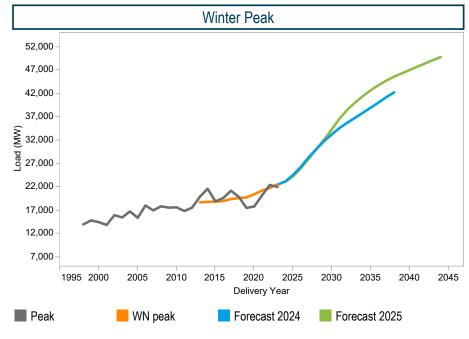


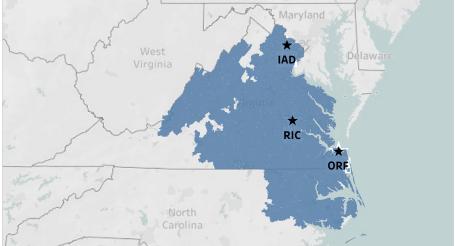


LDAs

Metropolitan Statistical Areas and Weather Stations

#### PJM RTO





MSA

Virginia Commonwealth Economics

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