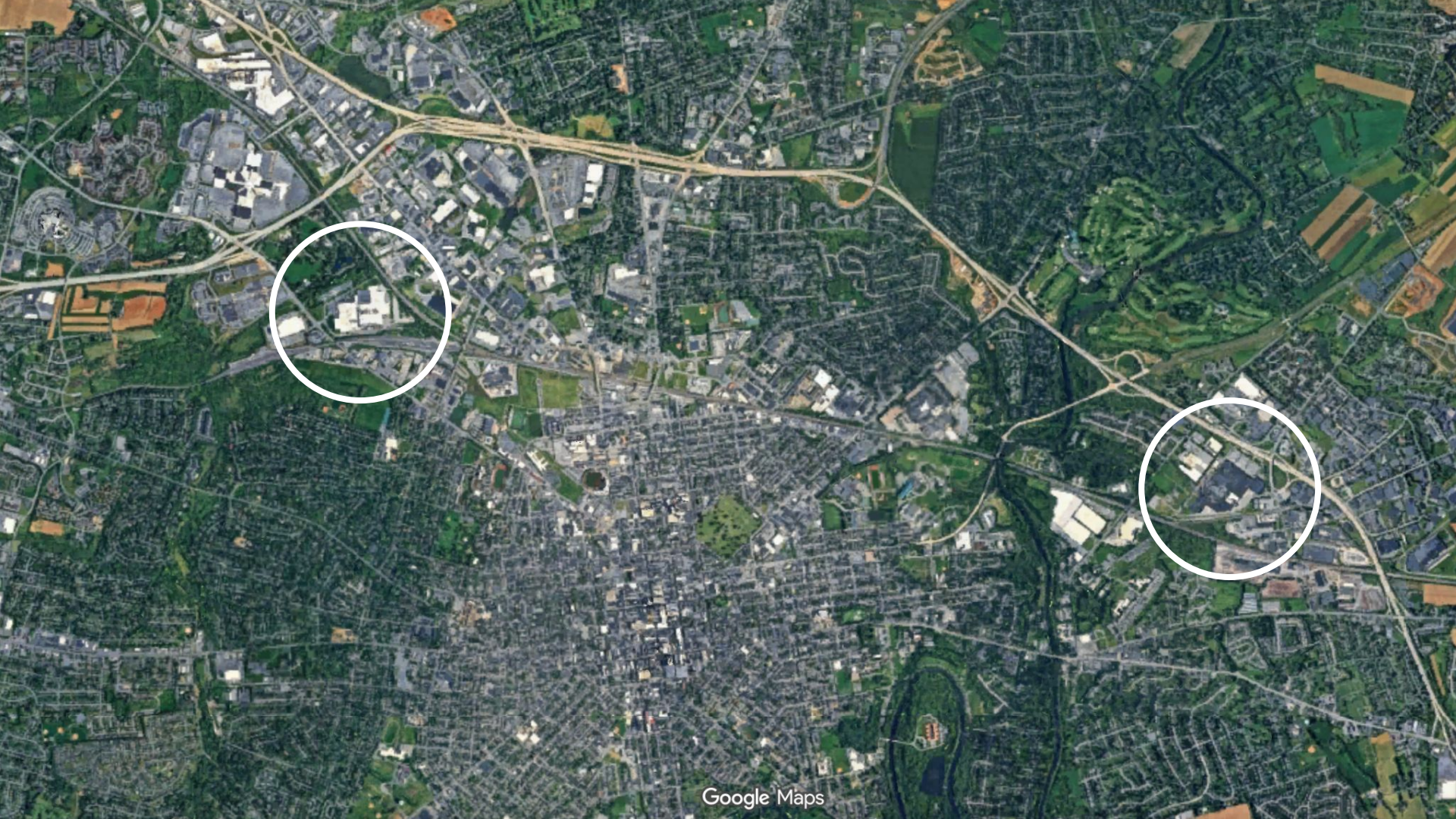


Eric Sauder  
eric@regenall.org  
717.519.9190

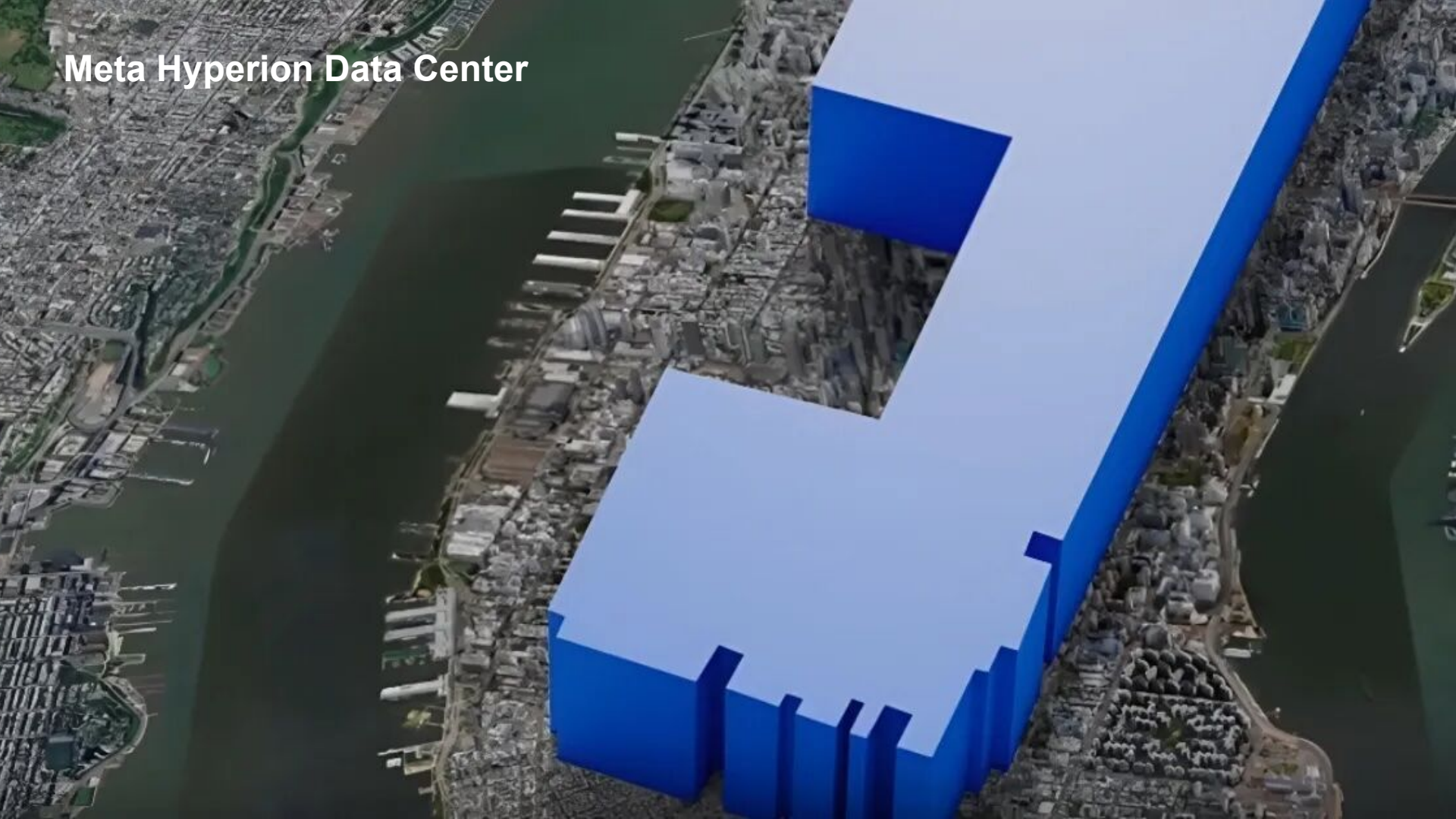


We catalyze local climate  
solutions for a more resilient  
future





# Meta Hyperion Data Center



## Lancaster County Data Center Proposed Electric Consumption

Lancaster County Electricity Consumption	Usage (2020)	Units
Residential Grid Electricity	2,363,420,026	kWh
Commercial Grid Electricity	2,302,007,050	kWh
Industrial Grid Electricity	1,731,329,944	kWh
<b>Total Electric Consumption</b>	<b>6,396,757,020</b>	<b>kWh</b>
<b>Total Electric Consumption</b>	<b>6,396,757</b>	<b>MWh</b>

Reference: [https://regenall.org/wp-content/uploads/2022/11/Lancaster-Carbon-Inventory\\_Spring-2020.pdf](https://regenall.org/wp-content/uploads/2022/11/Lancaster-Carbon-Inventory_Spring-2020.pdf)

Lancaster City Electric Consumption	Usage (2015)	Units
Residential Grid Electricity	184,635,617	kWh
Commercial Grid Electricity	275,793,422	kWh
Industrial Grid Electricity	87,611,826	kWh
<b>Total Electric Consumption</b>	<b>548,040,865</b>	<b>kWh</b>
<b>Total Electric Consumption</b>	<b>548,041</b>	<b>MWh</b>

Reference: Public data request of Electricity consumption assembled for 2015 Lancaster City GHG Inventory

Data Center Consumption	Power (MW)	Runtime (hours)	Annual Energy Consumption (MWh)
Greenfield	300	8,760	2,628,000
Harrisburg Pike	300	8,760	2,628,000
<b>Total Electric Consumption</b>	<b>600</b>	<b>17,520</b>	<b>5,256,000</b>

Proposed data center Energy Consumption as a fraction of current electricity consumption (County)

82.2%

Proposed data center Energy Consumption as a fraction of current electricity consumption (City)

959.1%



**REGENALL**

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82.2%

959.1%



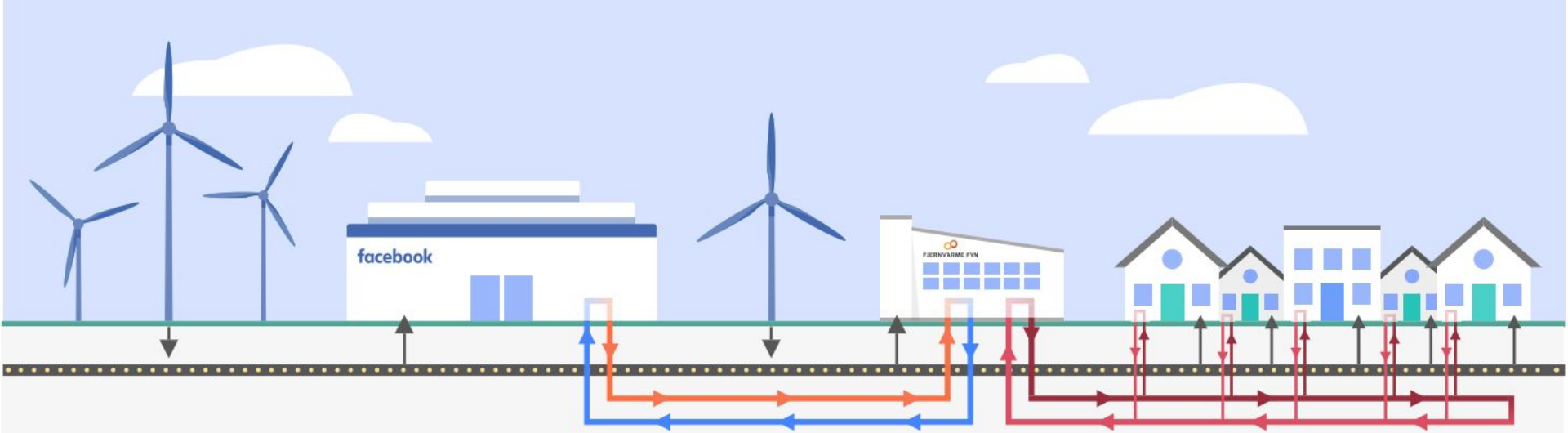
**REGENALL**



**Community Benefits Agreement Council Session**

# Three Energy Ideas for Lancaster:

- Expand Lancaster City's Healthy Homes Program to deliver countywide efficiency upgrades and renewables
- Invest with the Spanish American Civic Association's Tec Centro and Thaddeus Stevens College of Technology to train the workforce to deploy efficiencies and renewables at scale
- Capture and reuse data center waste heat for nearby buildings and industry



Wind turbines add renewable energy to the electric grid that supplies our data center and powers our servers

Hot air from the servers is directed over water coils to heat water

The warm water from the data center coupled with additional renewable energy is used in a heat pump facility to create hot water for the district heating network

The hot water delivers the heat to the community via the district heating network

\*not to scale



**Meta - Odense, Denmark**

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eric@regenall.org  
717.519.9190



# **Will my electric bill increase due to the new data centers?**

Lori Porreca  
President  
A1 Energy  
717-615-1360



kWh Delivered (to Customer)			
Meter Number	Reading Dates	Meter Reading	Kilowatt-Hours
300352487	Nov 17	45305	1159
	Oct 17	44146	
Days Billed: 31		Avg. kWh/Day: 37	Total Delivered: 1159
Date Range		Annual Total Usage	Avg Monthly
Dec 2024 - Nov 2025		16917 kWh	1410 kWh

**Next meter reading on or about:** Dec 17, 2025.

**State taxes this bill:** About \$0.73. **PA Gross Receipts Tax:** About \$4.46.

### Supply Details



Generation & Transmission Charges for Oct 17-Nov 17		
GEN & TRANS 1,159.00 KWH x \$0.10990		127.37
Gross Receipts Tax \$7.52		
<b>Total Better Buy Energy Charges</b>		<b>\$127.37</b>

For questions on these charges, please contact this supplier at:



1-833-201-0004



**Better Buy Energy  
Customer Services**  
6555 Sierra Drive  
Irving, TX 75039

General information: Generation prices and charges are set by the electric generation supplier you have chosen. The Public Utility Commission regulates

### Billing Summary

Previous Balance	\$146.01
Payment Received Nov 7, 2025 - Thank You!	-\$145.01
Balance as of Nov 19, 2025	\$1.00
Total Supply Charges	\$127.37
Total Delivery Charges	\$74.65
Other Charges	
Late Payment Charge	\$0.01
Total Other Charges	\$0.01

**Amount Due By 12/10/25**

**\$203.03**

Account Balance \$203.03

### Delivery Details



#### Distribution Charges

##### Residential Rate: RS for Oct 17 - Nov 17

Customer Charge	15.52
1,159 kWh at 5.049¢ per kWh	58.52
Tax Cut and Jobs Act Credit at -8.00%	-4.40
System Improvement Charge at 7.50%	5.22
PA Tax Adj Surcharge at -0.28%	-0.21

**Total Delivery Charges**

**\$74.65**



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# STRATEGIES TO CONTROL ENERGY COSTS IN A VOLATILE MARKET





- **Background on PJM grid and PPL Zone**
- **Control billing demand**
- **Manage capacity and transmission tags**
- **Real time pricing**
- **PPL vs. PJM Western Hub**

# Manage Your Billing Demand



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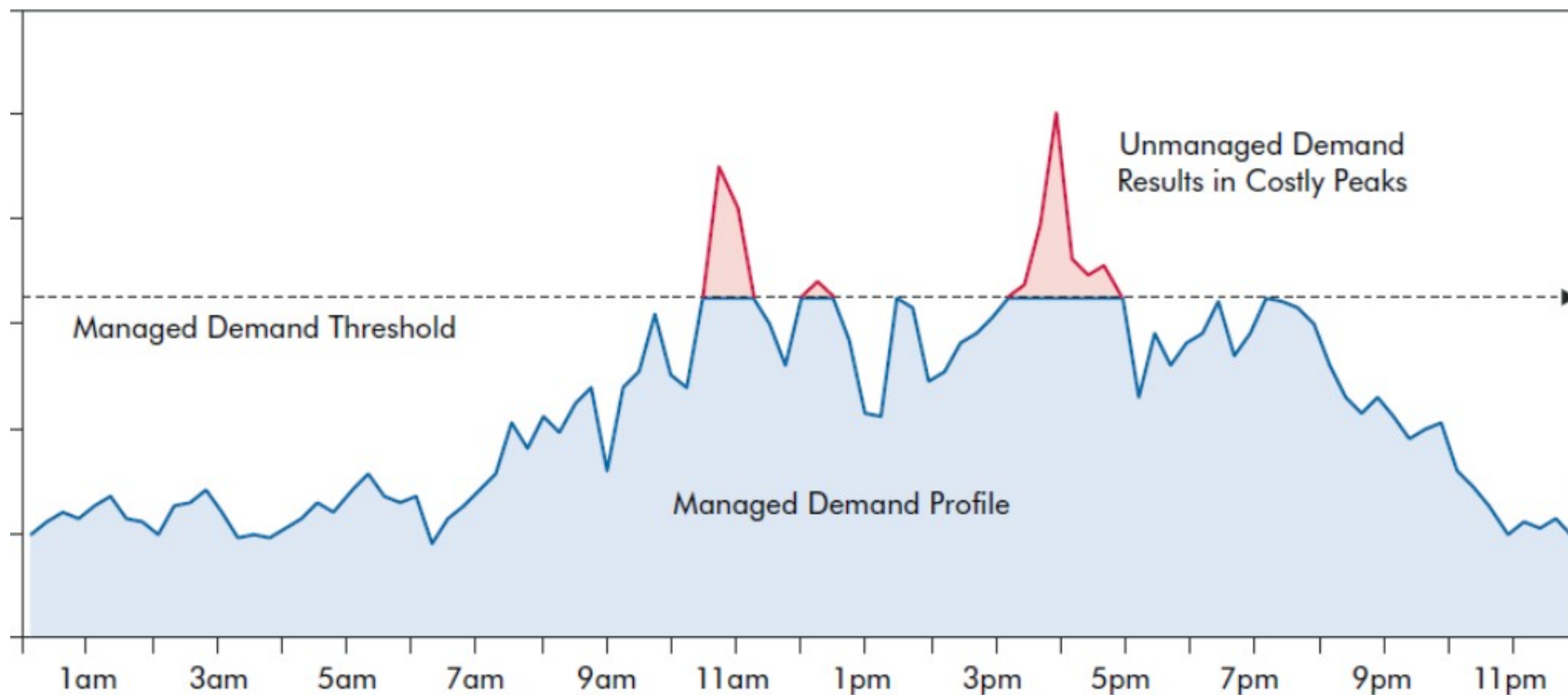
- **Billing demand is the highest energy load for a customer in a 15-minute period for an entire month**
- **It's multiplied by a rate factor which drives the utility (PPL) portion of the bill**
- **It's the only component of distribution a customer can manage**
- **It can be managed by :**
  - **Reducing overall power consumption**
  - **Avoiding multiple loads running at the same time**
  - **Scaling back certain loads when high limits are approaching**
  - **Software or manual control**

# Manage Your Billing Demand



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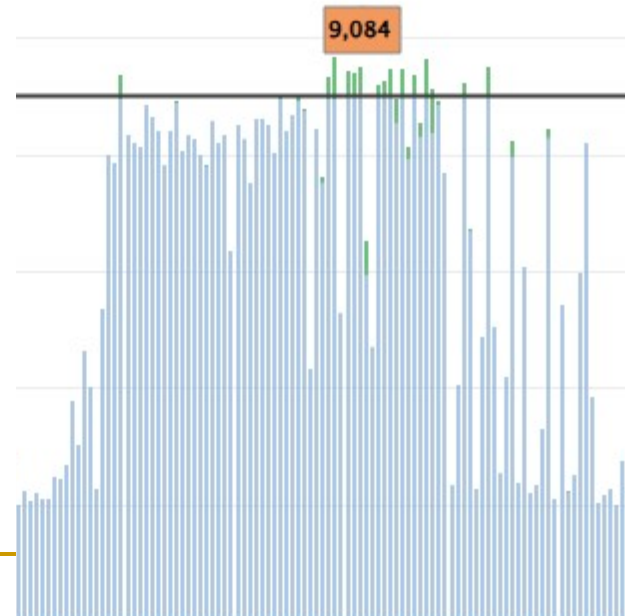
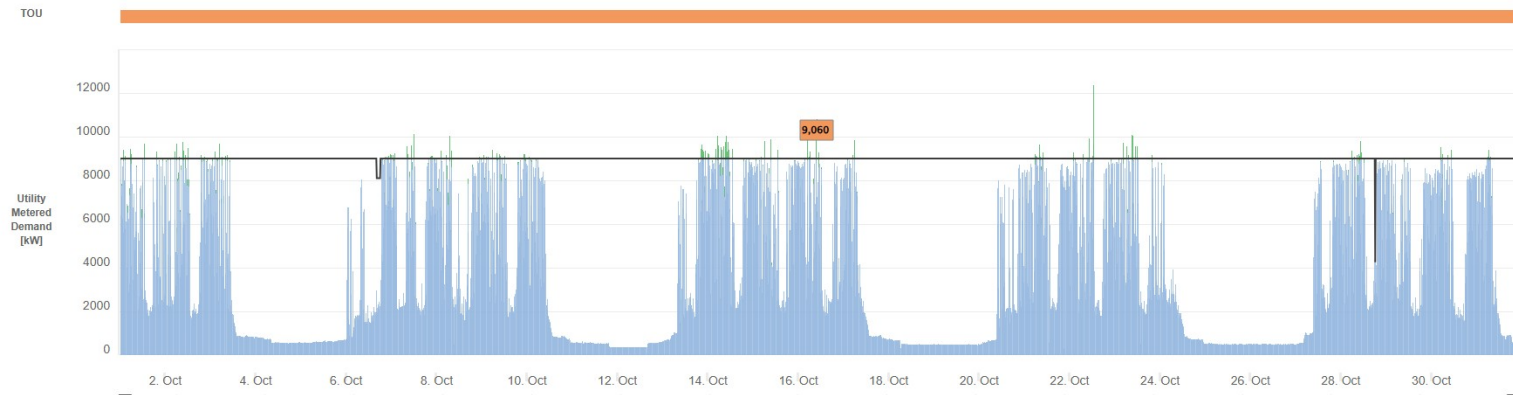
# Manage Your Billing Demand



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Power Demand Overview



# Cost Impact



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## IMPACT OF DEMAND LIMIT MANAGEMENT

### *Typical Monthly Distribution Bill*

#### **\*\*WITH DEMAND MANAGEMENT\*\***

DEMAND CHARGE	\$23,325	95.5%
ACT129	\$948	3.9%
CUSTOMER CHARGE	\$170	0.7%
CREDITS/RIDERS	\$12	0.0%
TAXES	-\$39	-0.2%
<b>TOTAL</b>	<b>\$24,416</b>	

**DEMAND = 9,158 KW @ \$2.55/KW**

#### **\*\*WITHOUT DEMAND MANAGEMENT\*\***

DEMAND CHARGE	\$40,752	97.4%
ACT129	\$948	2.3%
CUSTOMER CHARGE	\$170	0.4%
CREDITS/RIDERS	\$12	0.0%
TAXES	-\$39	-0.1%
<b>TOTAL</b>	<b>\$41,843</b>	

**DEMAND = 16,000 KW @ \$2.55/KW**

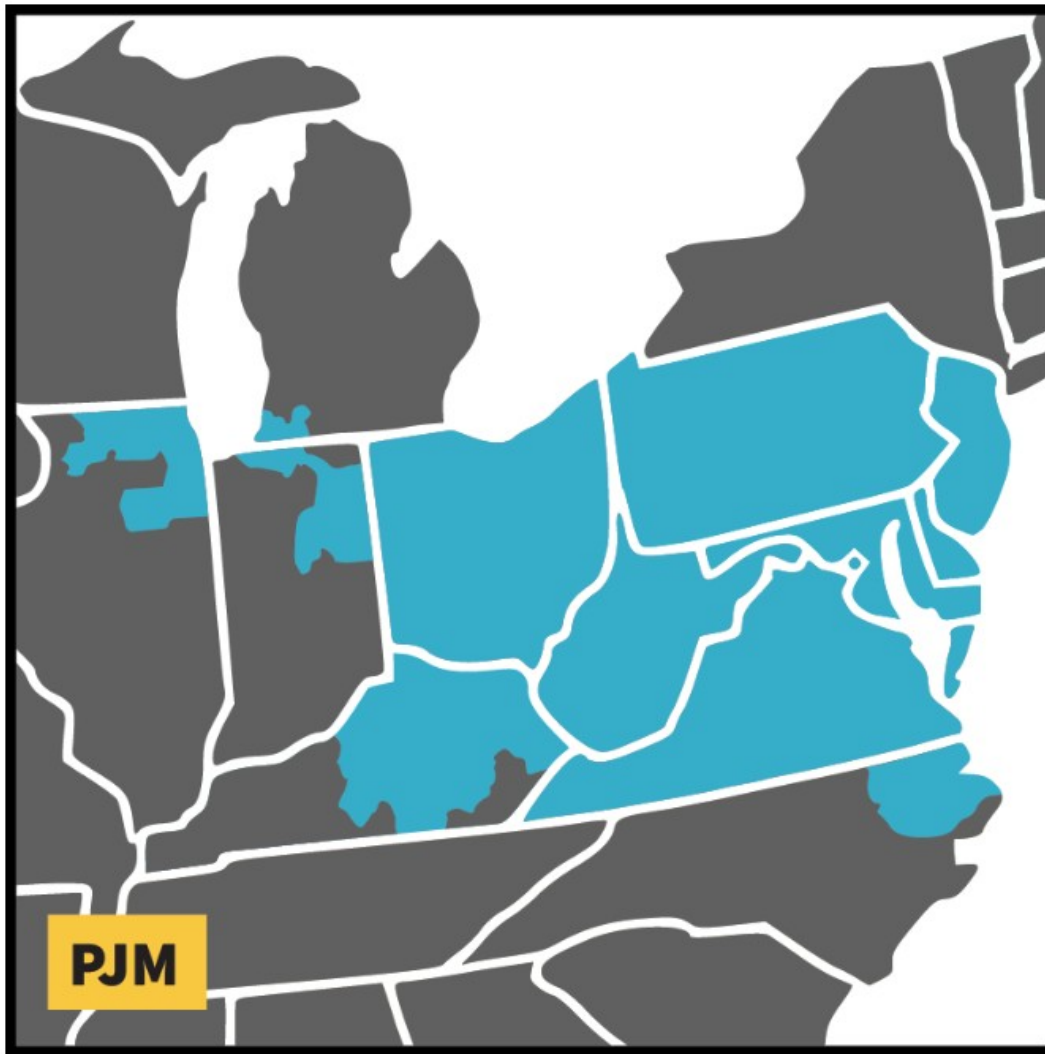
**DELTA**      **\$17,427**      **71%**  
**12 MONTHS**      **\$209,124**

# PJM Grid vs. PPL Zone



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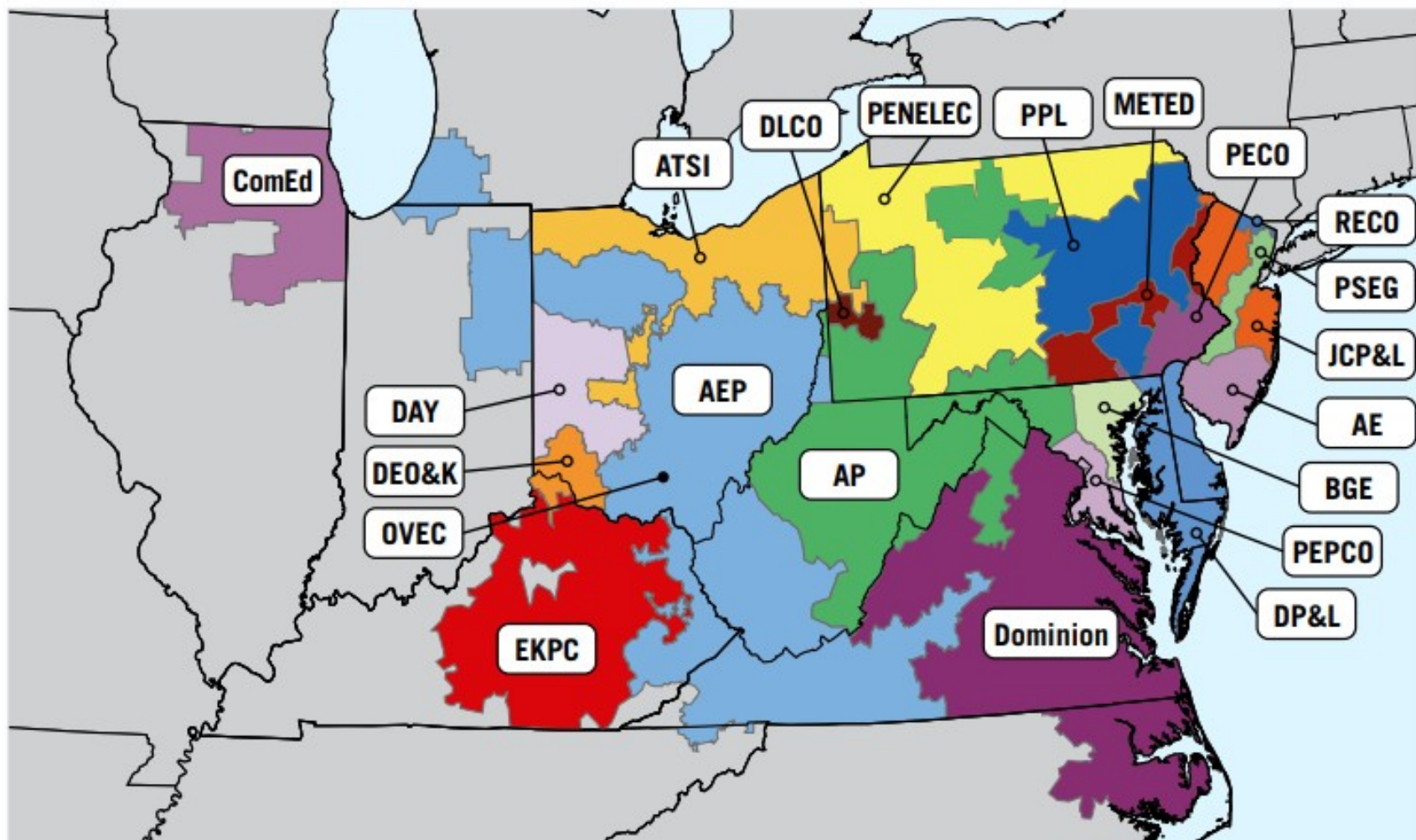
PJM Grid is a regional transmission organization (RTO) that manages the wholesale electricity market for a large part of the eastern United States. It is responsible for coordinating the movement of electricity across the region ensuring there is enough power to meet demand by balancing generation with usage in real-time.

# PJM Grid vs. PPL Zone



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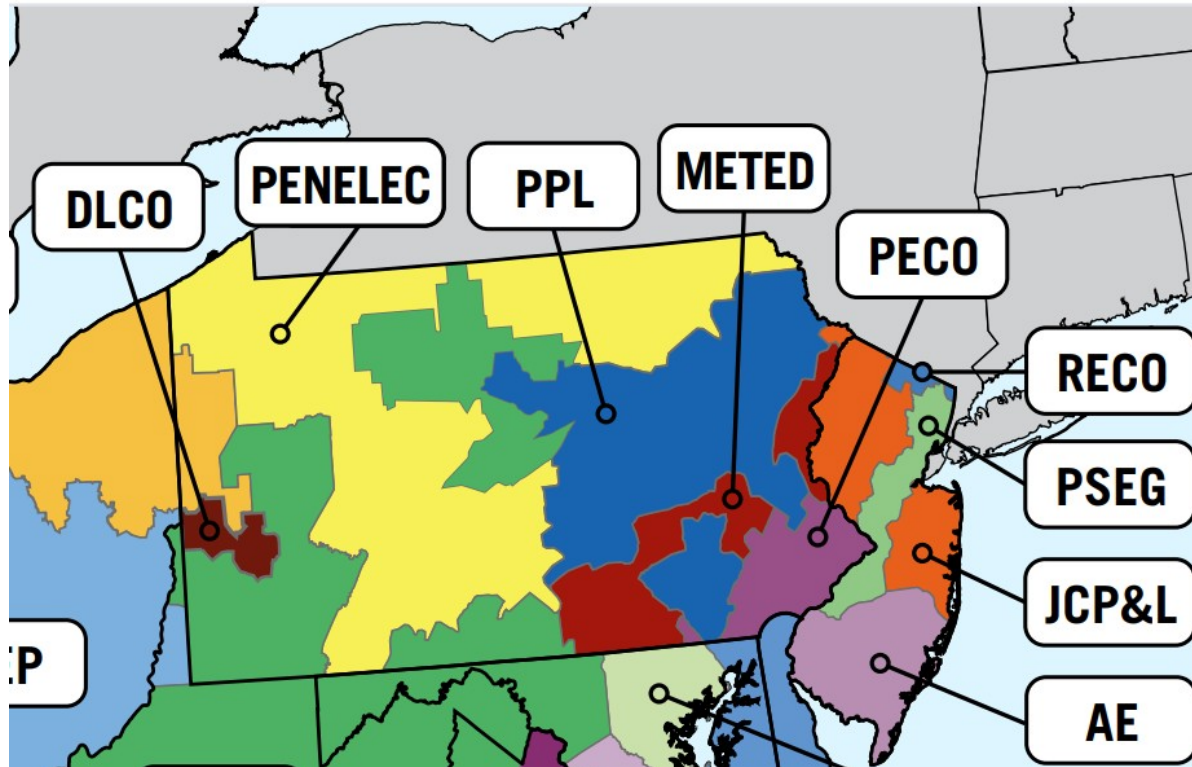


# PJM Grid vs. PPL Zone



**DONSCO**  
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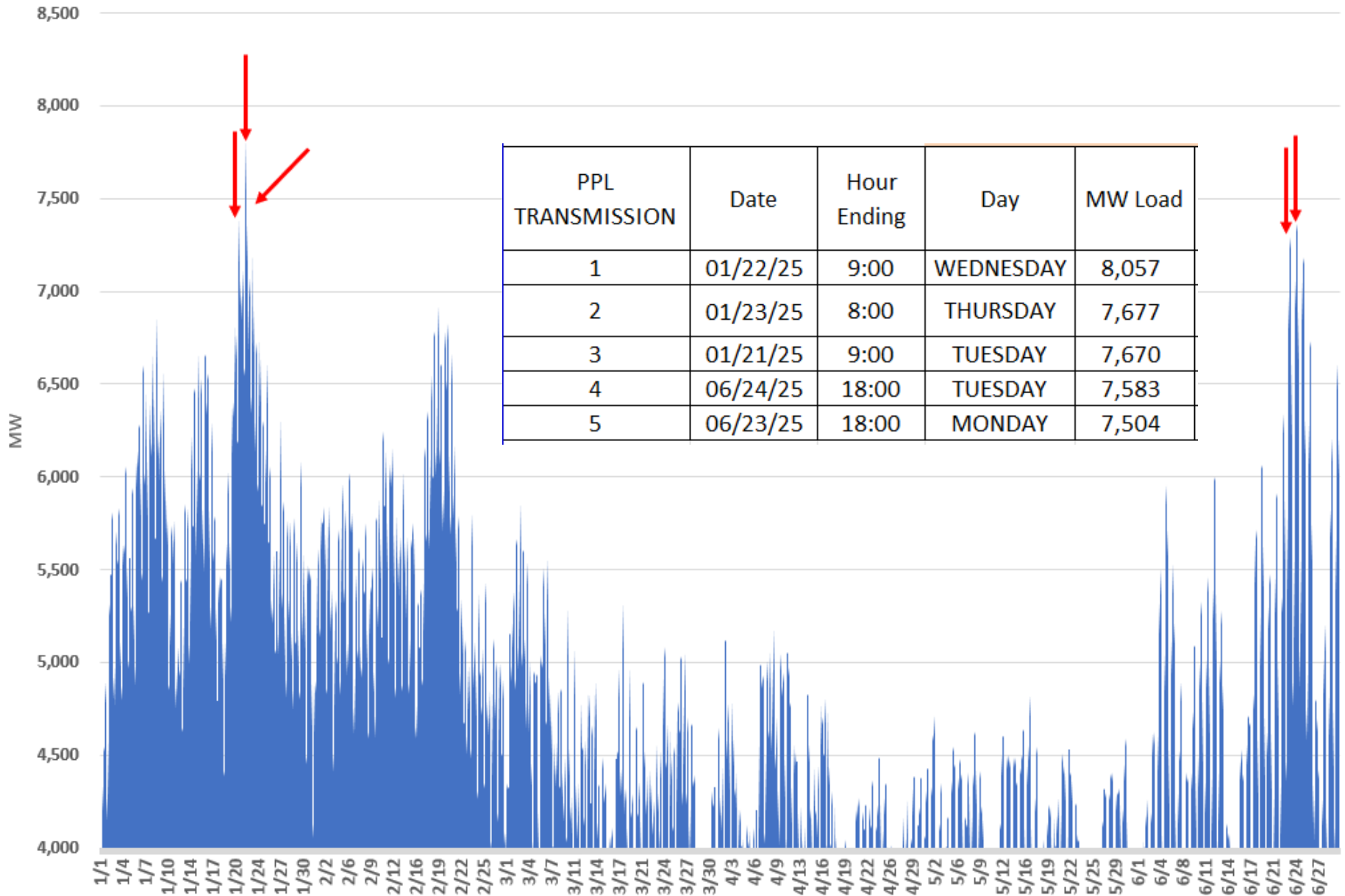
PPL Electric Utilities is the electricity distribution company in eastern and central Pennsylvania who own and operate the substations, poles, and wires to bring electricity to our homes and businesses



- PPL incurs costs to provide and maintain the local grid
- These costs get spread across all customers in the PPL zone
- They are allocated by looking at each customer's load (KW) during the 5 peak hours from Dec to Nov
- A snapshot is taken for each customer's load and the average of the 5 peaks become the upcoming year's transmission tag (Jan to Dec)
- It's a multiplier used to allocate the costs
- The loads typically are a mix of cold morning winter hours and hot summer afternoon hours

**PPL GRID LOAD**  
**JAN - JUL 2025**

**5 Highest Hourly Loads From Dec - Nov**

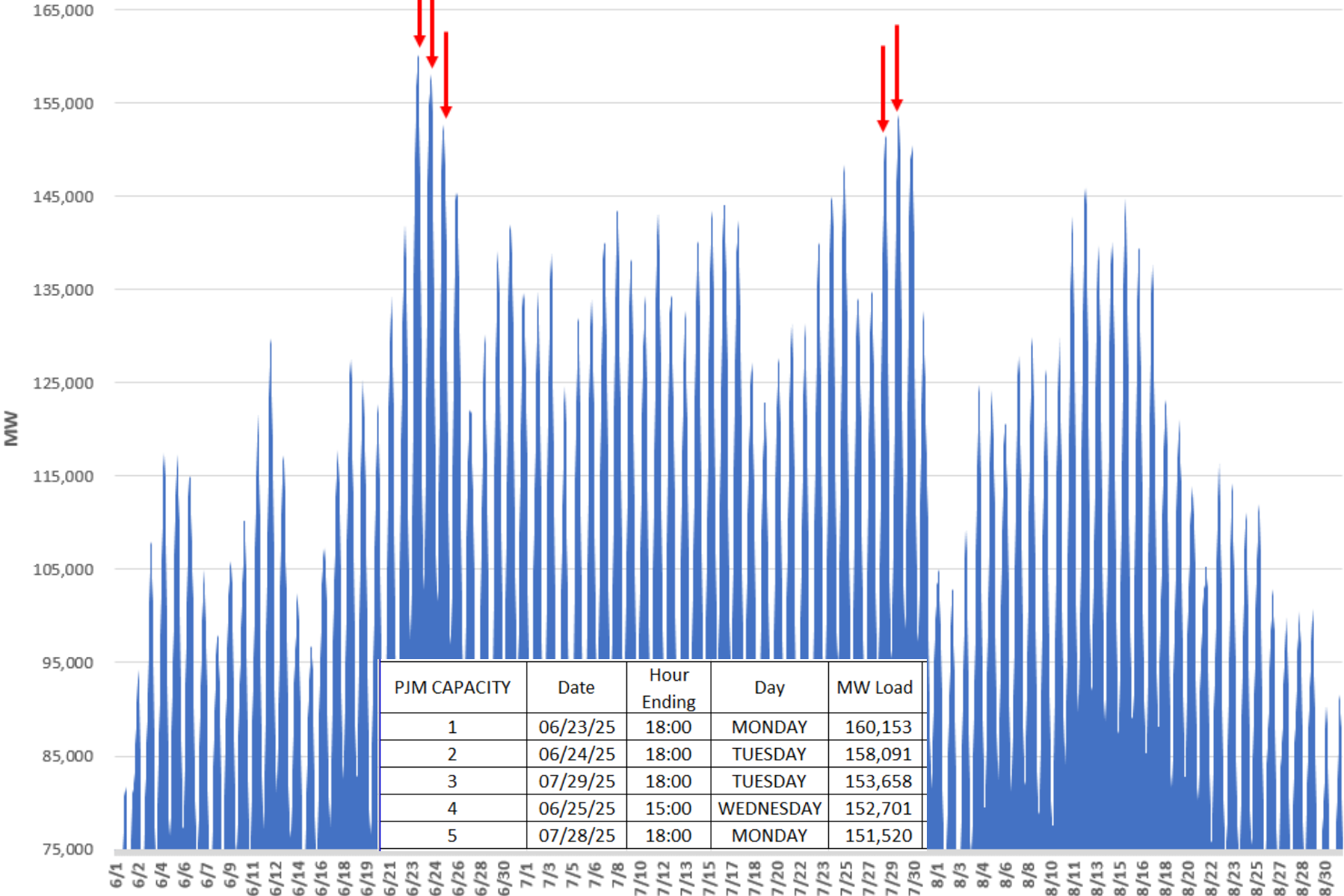




- **PJM incurs costs to ensure power plants have enough generation capacity to handle all loads during high peak times**
- **These costs get spread across all customers in the PJM grid**
- **They are allocated by looking at each customer's load (KW) during the 5 peak hours from June through Sept**
- **A snapshot is taken for each customer's load and the average of the 5 peaks become the upcoming year's transmission tag (June to June)**
- **It's a multiplier used to allocate the costs**
- **The loads have always been hot summer afternoon hours**

PJM GRID LOAD  
JUN - AUG 2025

5 Highest Hourly Loads From Jun - Sept



# Cost Impact



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## Typical Monthly Energy Bill

### \*\*WITH TAG MANAGEMENT\*\*

ENERGY	\$77,060	53%
TRANSMISSION OBLIGATION	\$27,121	19%
ANCILLARY COSTS	\$20,449	14%
TAXES	\$8,710	6%
CAPACITY OBLIGATION	\$6,755	5%
LINE LOSSES / CREDITS	\$2,603	2%
MANAGEMENT FEE	\$2,154	1%
<b>TOTAL</b>	<b>\$144,852</b>	

**TAG = 3,008 KW @ \$9.02/KW**

**TAG = 1,052 KW @ \$6.42/KW**

### \*\*WITHOUT TAG MANAGEMENT\*\*

ENERGY	\$77,060	53%
TRANSMISSION OBLIGATION	\$81,180	56%
ANCILLARY COSTS	\$20,449	14%
TAXES	\$8,710	6%
CAPACITY OBLIGATION	\$57,780	40%
LINE LOSSES / CREDITS	\$2,603	2%
MANAGEMENT FEE	\$2,154	1%
<b>TOTAL</b>	<b>\$249,936</b>	

**TAG = 9,000 KW @ \$9.02/KW**

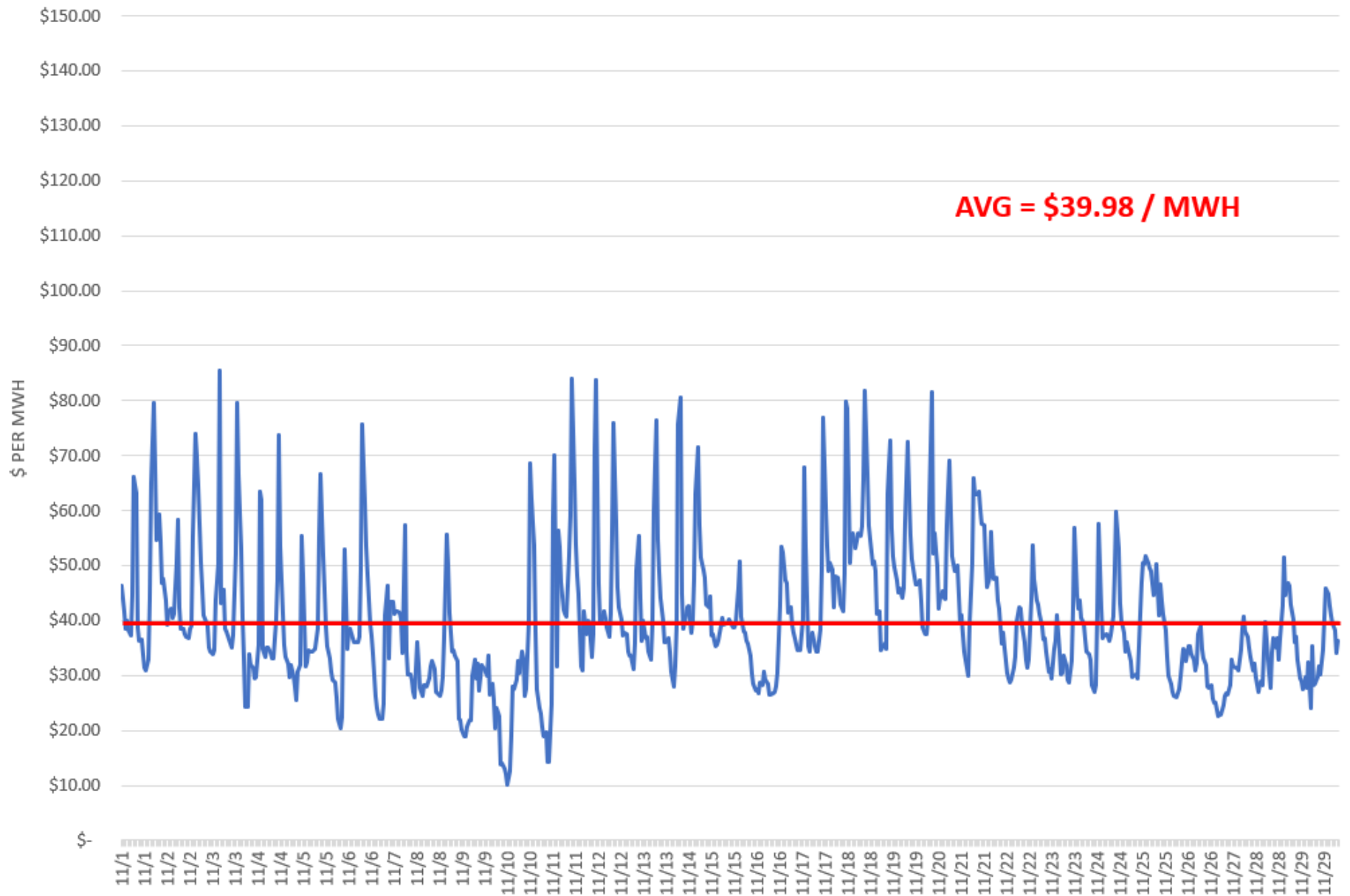
**TAG = 9,000 KW @ \$6.42/KW**

**DELTA**      **\$105,084**      **73%**  
**12 MONTHS**      **\$1,261,008**

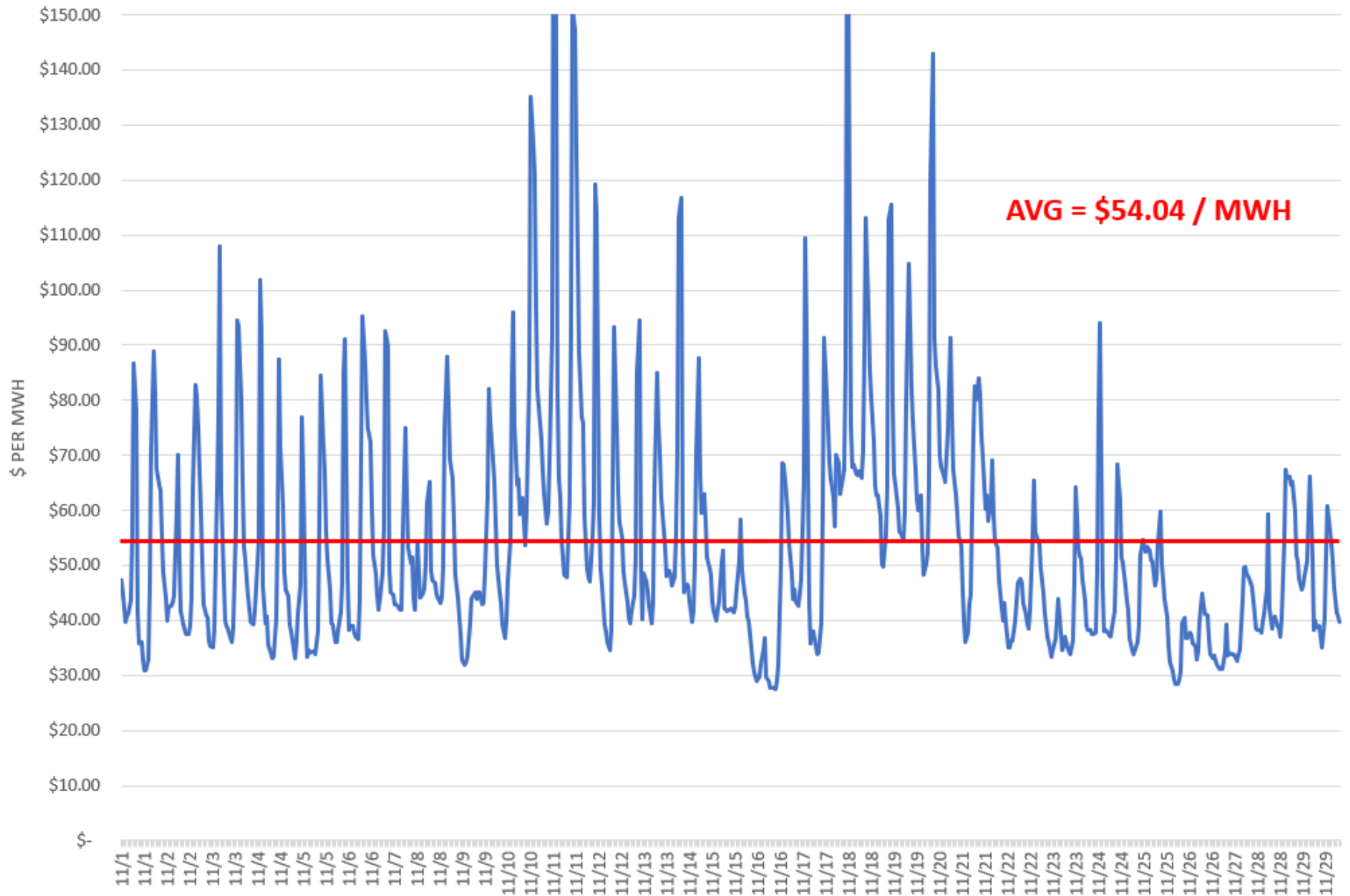


- **Energy costs change every hour**
- **Similar to the stock market**
- **A higher risk, but big reward strategy is to buy real time pricing instead of an all-in fixed price or a block and index price**
- **Electric bill rate changes 24 times a day**
- **Full pass-through model with no supplier mark up**
- **Will carry more volatility but tends to always end up the lowest cost per KWH option**
- **Can be priced at a PJM Hub or a local utility zone (PPL)**

# NOV 25 REAL TIME HOURLY PRICING PPL ZONE



# NOV 25 REAL TIME HOURLY PRICING PJM WESTERN HUB

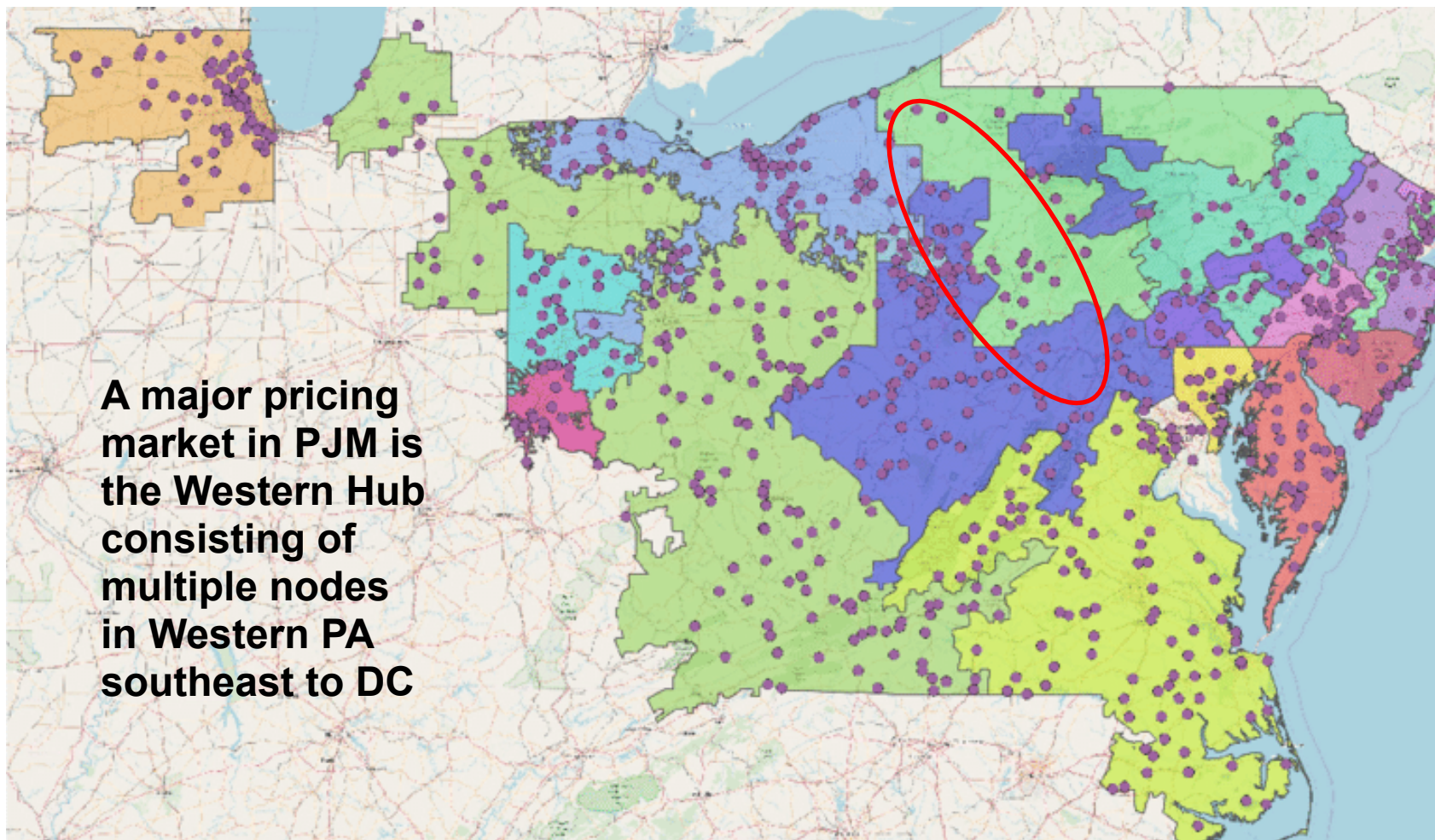


# PJM Western Hub vs. PPL Zone



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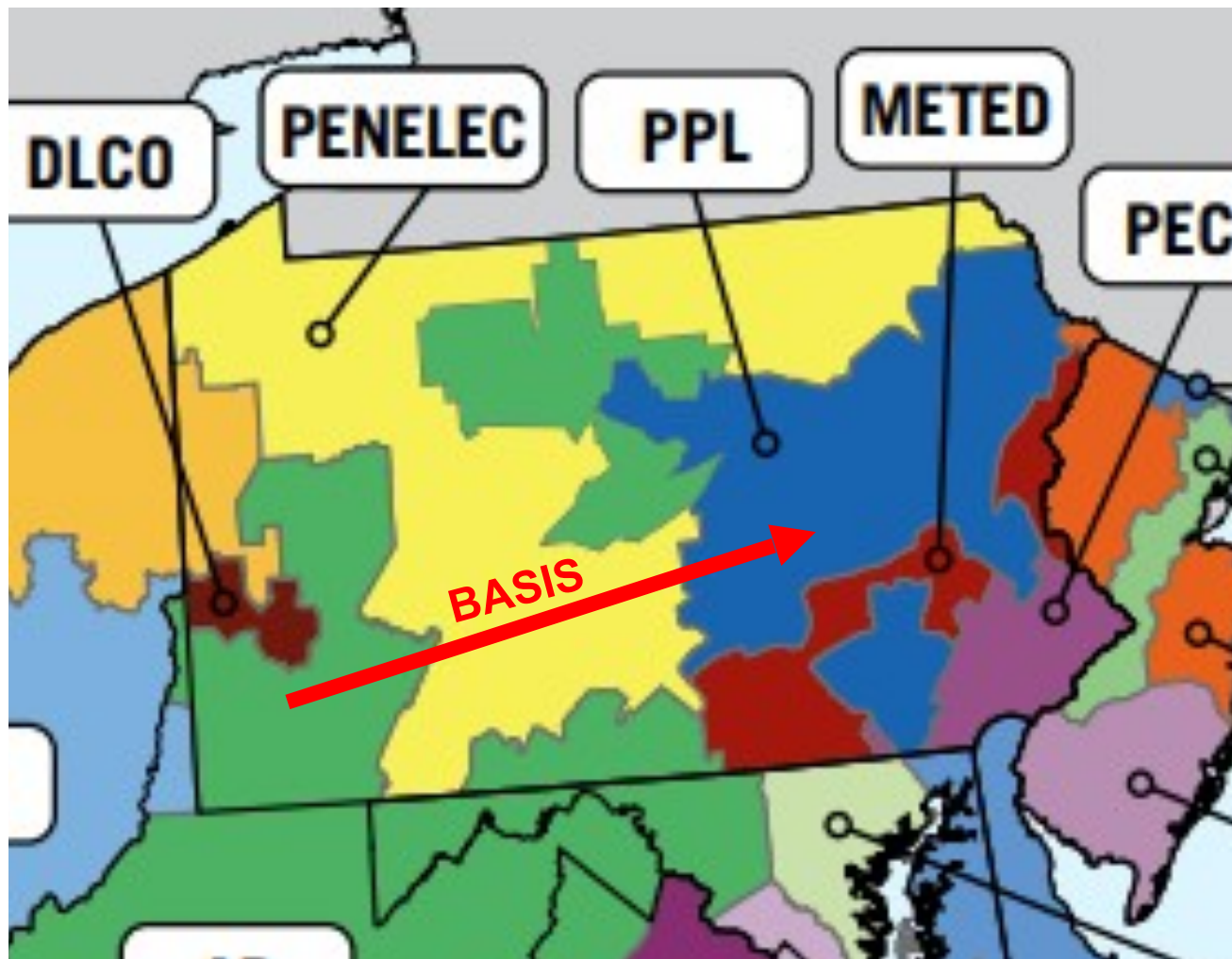


# PJM Western Hub vs. PPL Zone



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**Basis is the differential between the Hub pricing node and the utility consumption zone**

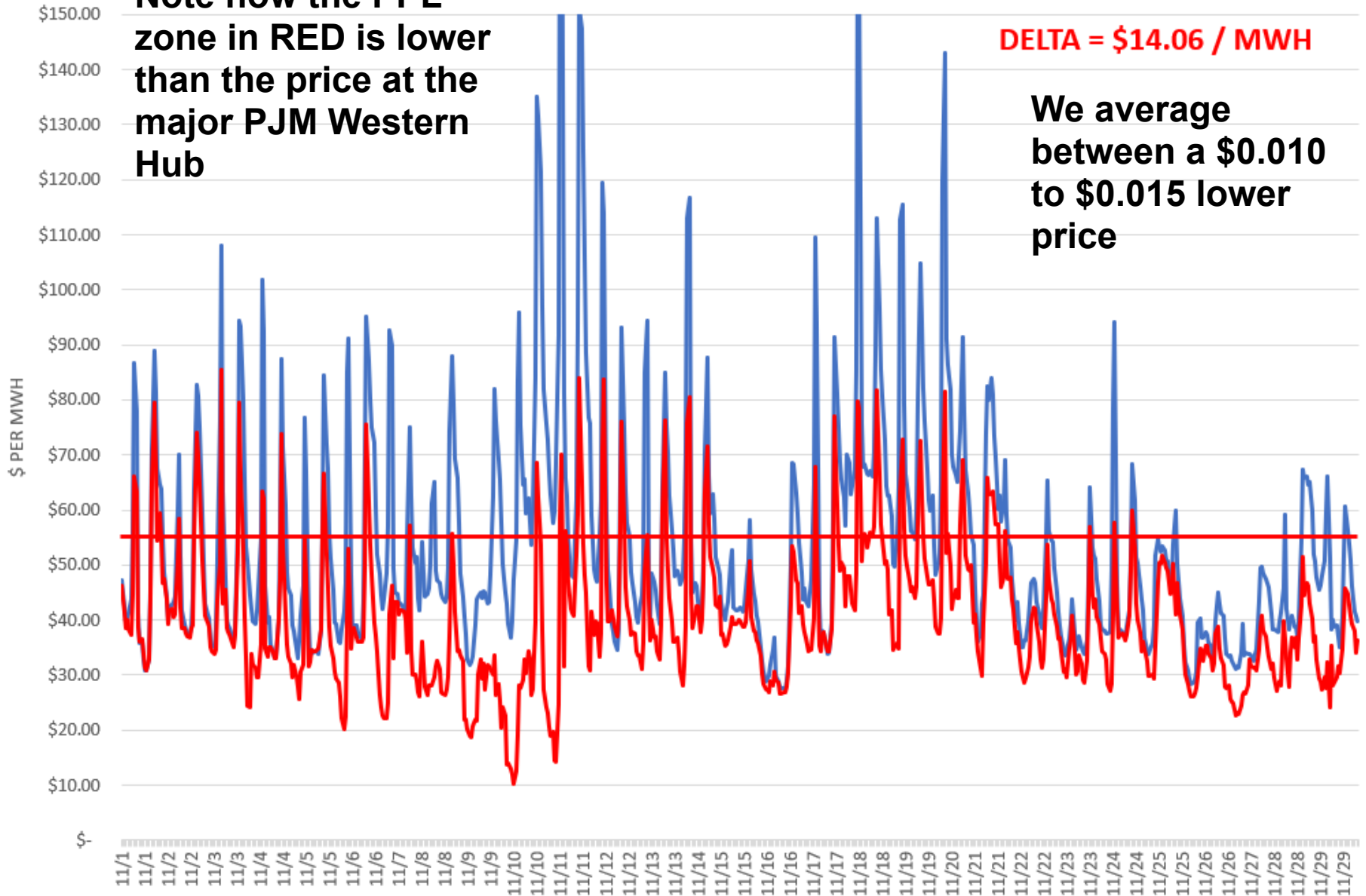
## NOV 25 REAL TIME HOURLY PRICING

— WESTERN HUB — PPL ZONE

**Note how the PPL zone in RED is lower than the price at the major PJM Western Hub**

**DELTA = \$14.06 / MWH**

**We average between a \$0.010 to \$0.015 lower price**



# Why is PPL Zone Cheaper - Today

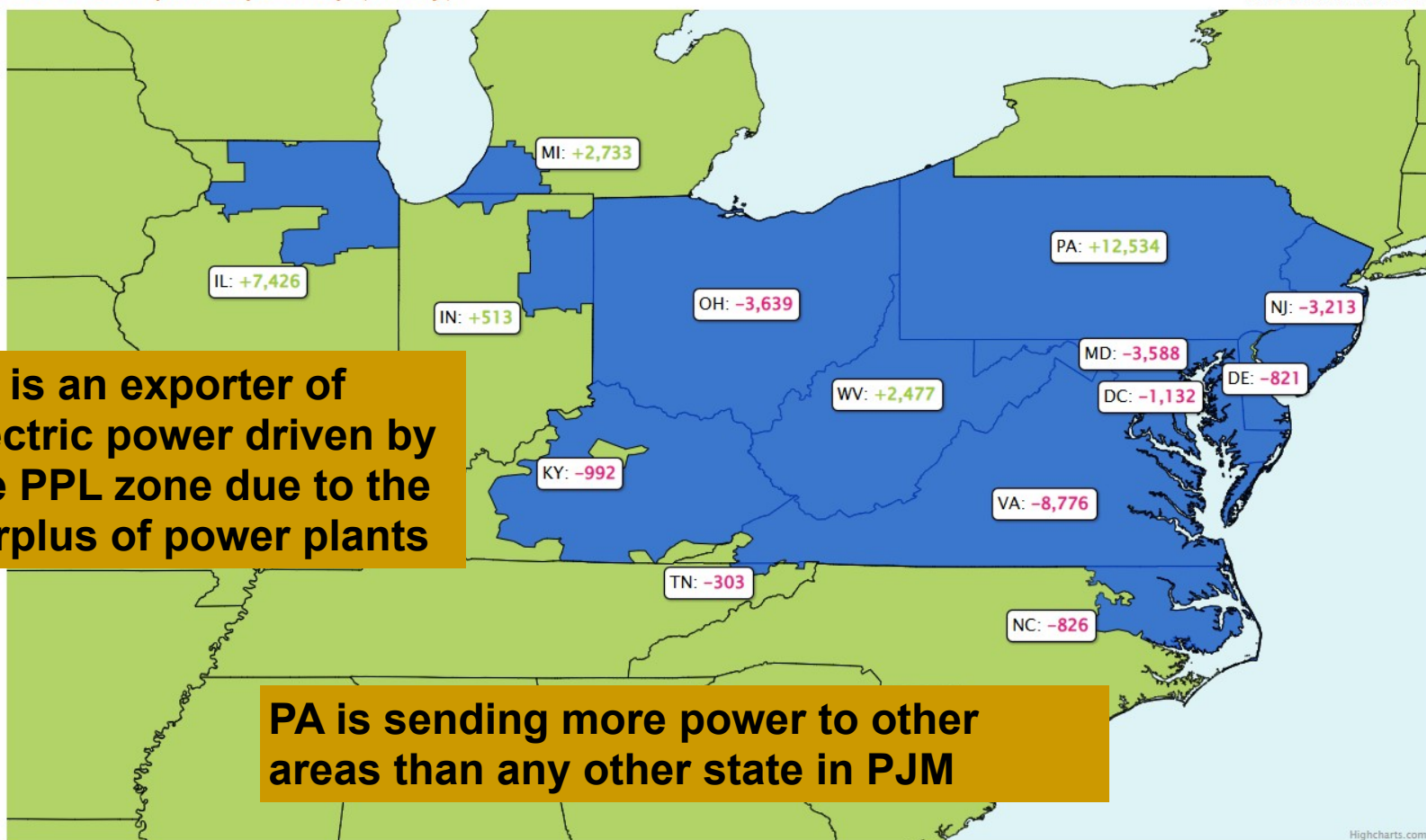


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State Net Import/Export Map (Hourly)

As of 12.4.2025 5:00 am EPT



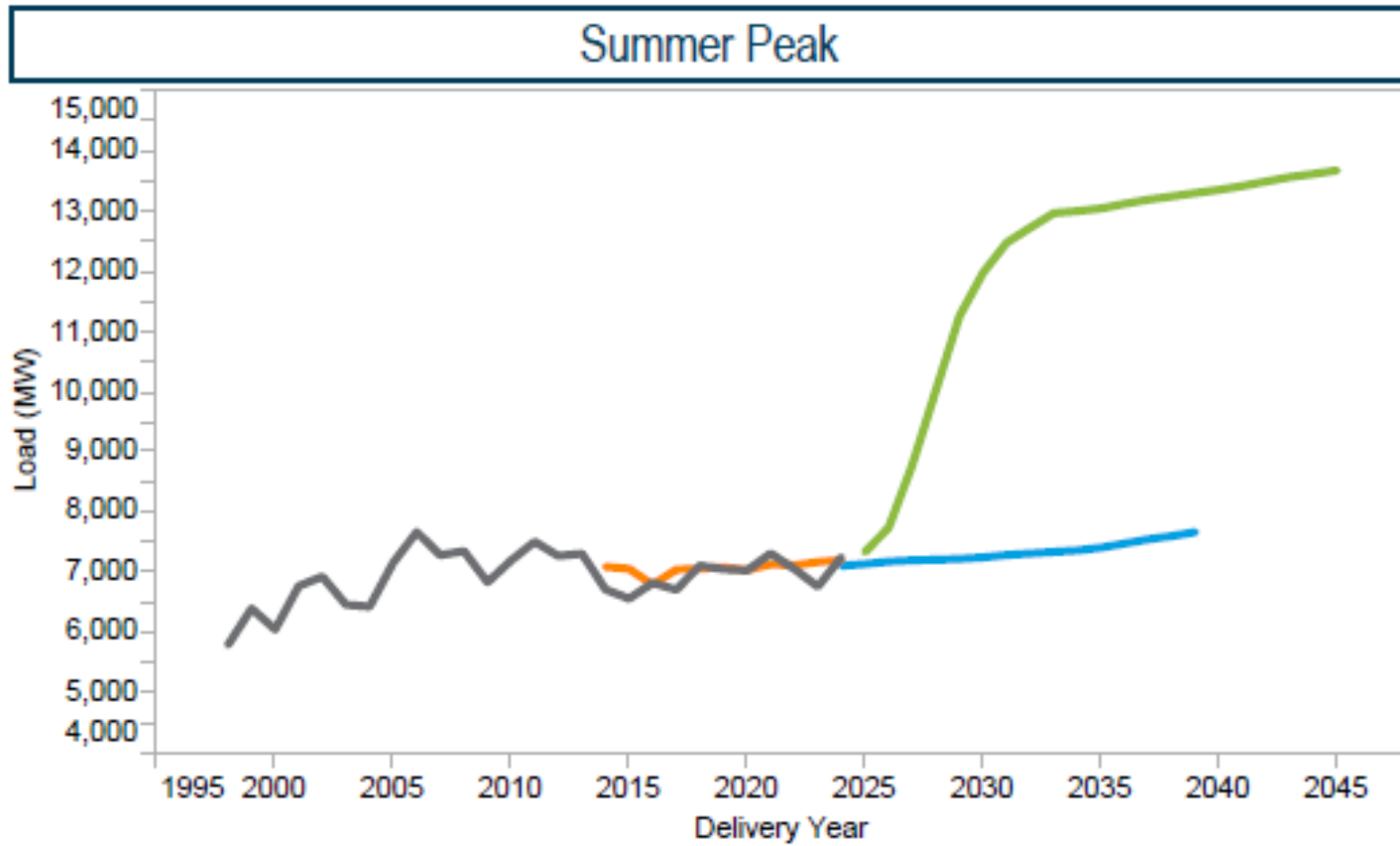
# Will This Continue ?



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■ Peak    ■ WN peak    ■ Forecast 2024    ■ Forecast 2025



# Will This Continue ?



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	5 Year Avg	2026	2027	2028	2029	2030
PPL	10.3%	5.5%	13.4%	14.1%	12.3%	6.4%
DOM	7.4%	6.5%	7.5%	8.5%	7.7%	7.0%
AEP	6.4%	9.3%	4.5%	3.8%	4.0%	10.4%
PJM	3.6%	3.1%	3.3%	3.5%	3.6%	4.4%
APS	2.8%	2.2%	2.7%	2.8%	3.9%	2.3%
ATSI	2.4%	0.9%	1.5%	1.7%	3.0%	4.9%
DAYTON	2.0%	-0.2%	8.9%	1.3%	0.1%	0.0%
PS	1.8%	1.8%	1.4%	2.6%	1.3%	1.9%
COMED	1.4%	1.1%	0.9%	1.2%	1.8%	2.1%
DEOK	1.0%	0.2%	0.1%	0.8%	3.1%	1.0%
METED	0.9%	0.6%	0.8%	0.9%	1.0%	1.2%
PECO	0.8%	0.4%	0.9%	0.9%	0.9%	0.9%
BGE	0.4%	0.0%	0.3%	0.3%	0.8%	0.5%
PEPCO	0.3%	0.4%	0.3%	0.3%	0.3%	0.3%
EKPC	0.2%	0.2%	0.2%	0.1%	0.3%	0.3%
DLCO	0.2%	-0.2%	0.2%	0.3%	0.4%	0.3%
JCPL	0.0%	0.1%	0.0%	-0.2%	0.1%	0.2%
PENLC	0.0%	-0.3%	0.1%	-0.3%	0.2%	0.4%
OVEC	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
DPL	0.0%	-0.2%	-0.1%	0.0%	0.1%	0.0%
UGI	-0.1%	-0.5%	0.0%	0.0%	0.0%	0.0%
AE	-0.1%	-0.2%	-0.2%	-0.2%	0.0%	0.0%
RECO	-0.3%	0.2%	-0.5%	-0.5%	-0.5%	0.0%

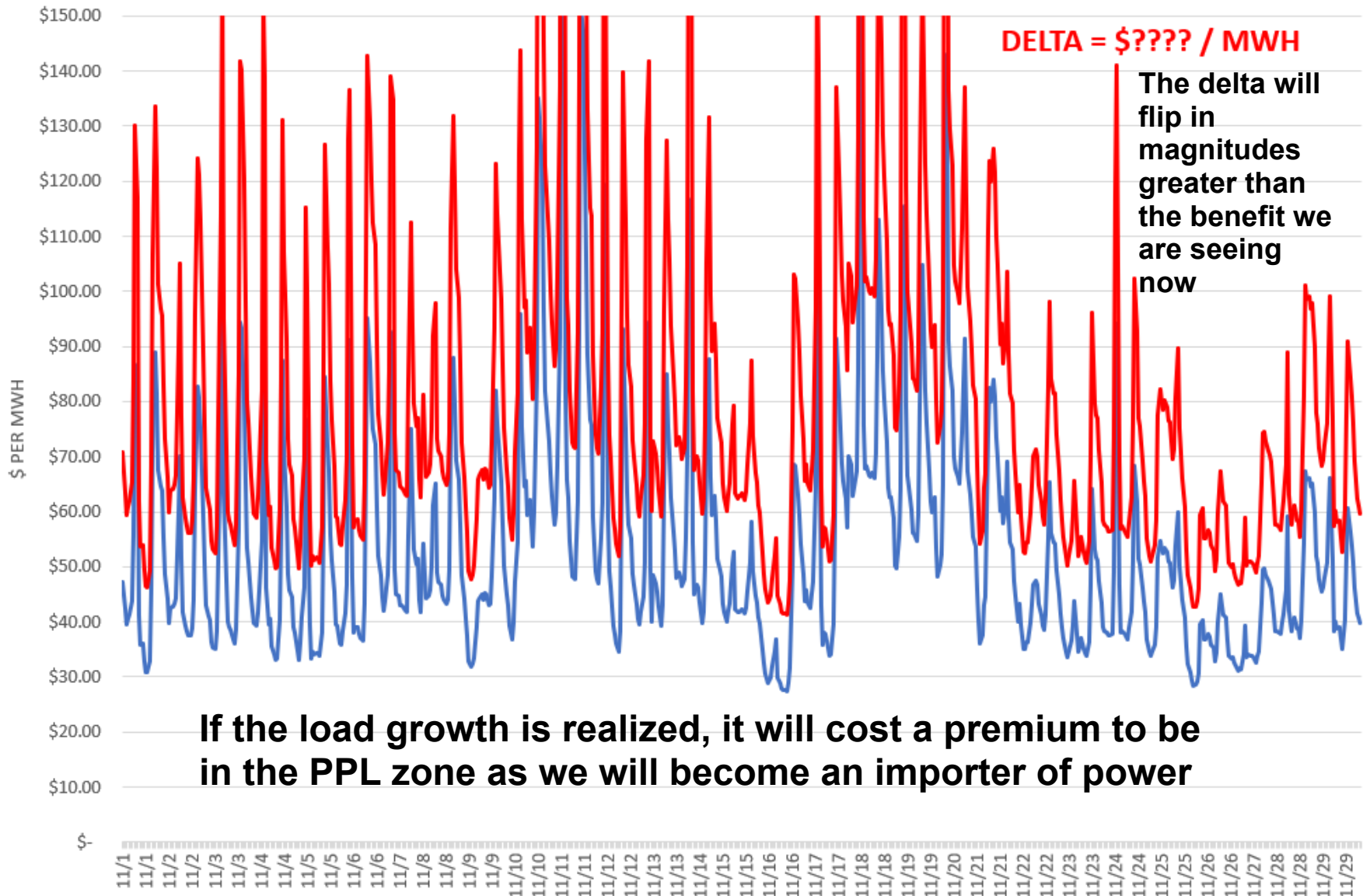
**PPL is projected to be the highest load growth zone in all of PJM due to planned data center loads**

**A 300% growth projection verses the entire grid over the next 5 years**

- The demand is driven primarily by new data centers, it is a highlight of [PPL's investor presentation](#)

## FUTURE REAL TIME HOURLY PRICING

— WESTERN HUB — PPL ZONE



**THANK YOU  
CHRIS BUCK  
VICE PRESIDENT OPERATIONS  
CBUCK@DONSCO.COM**

