

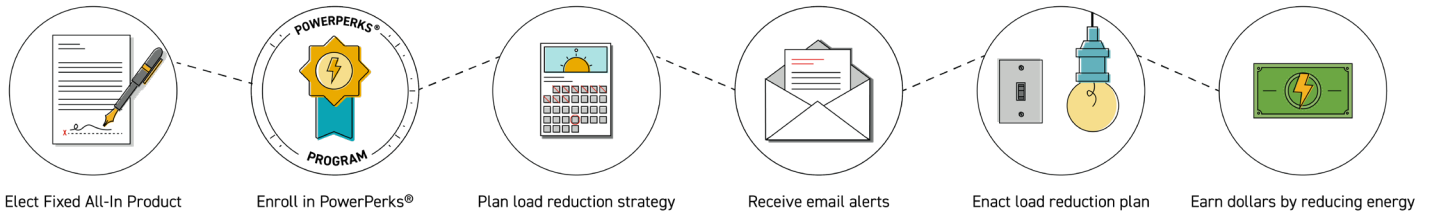


POWERPERKS® PROGRAM

Earn dollars by reducing energy.

Take advantage of AEP Energy’s complimentary program, PowerPerks® with our Fixed All-Inclusive Price Plan. This program allows your business to earn money for using less power during periods of high demand. Plus, you’ll be doing your part to help our electric grid’s reliability. Participation is voluntary and without penalty, which means you choose when to participate and take advantage of earning dollars for reducing energy.

HOW IT WORKS



Program Features	Benefits	Eligibility
Exclusive to AEP Energy Customers	Complimentary Program	Available with Fixed All-inclusive Product ¹
Runs June 1 - September 30	Earn \$500 per Megawatt-hour of reduced energy	Interval meter required
Receive email notifications	No penalties if you cannot participate during and event	Subject to data verification testing
	Receive bill credit in December	

¹The program is subject to additional terms and conditions that should be read and understood in connection with any decision to participate. Please review carefully the PowerPerks® Terms and Conditions, which include important information on PowerPerks requirements, restrictions, and limitations, including limitations of liabilities and disclaimers of warranties. Please be aware that AEP Energy makes no guarantee as to the continuation or ongoing existence of PowerPerks or regarding the accuracy, timeliness, suitability, completeness, freedom from error, or value of PowerPerks or any PowerPerks information. Neither PowerPerks nor any information therein should be construed as advice, a recommendation, or a guarantee of future results, and actual results, pricing, and/or savings achieved by the customer may differ materially from expectations.

BOUNDLESS ENERGYSM

AEP Energy is an affiliate of AEP Ohio. AEP Energy is not soliciting on behalf of and is not an agent of AEP Ohio. AEP Ohio customers do not need to purchase any competitive retail electric service from AEP Energy to receive or to continue to receive non-competitive retail electric services from AEP Ohio.



An **AEP** Company

COMPANY OVERVIEW

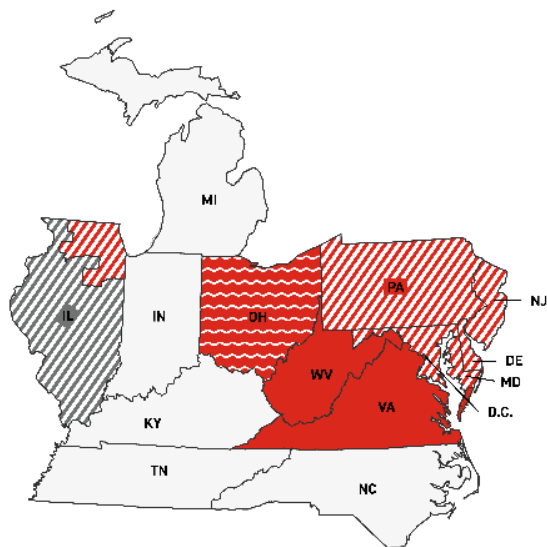
Our Customers' Success Defines Our Success

AEP Energy is dedicated to improving your bottom line. We do so by understanding your business' needs and helping you develop a customized energy solution plan that gives you peace of mind. Let AEP Energy serve as your trusted energy advisor to help you understand the right choices for your business. You'll do so knowing you're working with a company of integrity and legacy, making AEP Energy a company with boundless energy choices.

Leading the Way in Energy Benefits and Services:

- **Energy Supply** leads the way in providing a full suite of electricity and natural gas products for business and residential customers, as well as renewable energy plans tailored to your energy needs.
- **Energy Management, Solar and Renewables** offers products nationwide to maximize savings and increase profitability.

AEP Energy is licensed and operating in the following states:
Delaware, Illinois, Maryland, New Jersey, Pennsylvania, Ohio and Washington, D.C.



-  ENERGY SUPPLY SERVICES
-  ENERGY SUPPLY AND NATURAL GAS SERVICES
-  MISO ILLINOIS HUB ZONE 4
-  PJM CURTAILMENT SERVICES

Energy Management, Solar and Renewable solutions are offered nationwide.

Facts at a Glance

American Electric Power (AEP)	
Founded	1906
Total Customers	5.4 million
Market Cap	\$42.0 billion
Revenue	\$16.2 billion
Assets	\$68.8 billion

AEP Energy	
Founded	2002
Total Customers	nearly 430,000

AEP Energy is a wholly owned subsidiary of AEP, one of the largest electric utilities in the United States, and ranked 185 on the Fortune 500.

See AEP.com/investors for more information

AEP Energy Supply Organization

AEP Energy Partners
 Procures and sells wholesale energy in deregulated markets.

AEP Generation Resources
 Owns and operates power generating facilities producing approximately 2,114 MW per year.

AEP Energy
 Competitive retail energy supplier serving nearly 430,000 commercial, industrial, public sector and residential customers in 27 utility service territories across six states and D.C.

AEP OnSite Partners
 Provides behind-the-meter services and solutions by assisting customers in reducing energy costs and risks.

AEP Renewables
 Develops, owns and operates large scale wind and solar energy generating facilities.

BOUNDLESS ENERGYSM

AEP Energy is a competitive retail electric generation and natural gas service supplier and an affiliate of Ohio Power Company (AEP Ohio). AEP Energy is not soliciting on behalf of, endorsed by, acting on behalf of, and is not an agent of AEP Ohio, your electric distribution company, any governmental body, or consumer group. Electricity is the product of a mix of generation energy sources that is delivered over a system of wires. Customers do not need to purchase electric generation supply from AEP Energy in order to continue to receive regulated service from their utility. Switching to AEP Energy is not mandatory and you have the option of remaining with your local distribution company for basic generation service. AEP Energy's Maryland license is IR-757.

Recent Developments in Today's Market

Bullish – Bearish statement provided by AEP Energy Trading

Markets were closed on Monday, September 2 in observance of the Labor Day holiday. As markets opened on Tuesday, power and natural gas prices strengthened as weather models gained demand over the holiday weekend. October 2019 Henry Hub natural gas is up \$0.061/MMBtu to \$2.346/MMBtu and peak power at AEP - Dayton Hub is up \$0.25/MWh to \$29.25/MWh for the same term.

Power markets were slightly higher on Friday, August 30, ahead of the long holiday weekend. Overall on the week of August 26, October through December 2019 natural gas at Henry Hub gained \$0.110/MMBtu to \$2.365/MMBtu while peak power at AEP - Dayton Hub advanced \$0.23/MWh to \$30.24/MWh for the same term.



Natural Gas Weekly Update

Week Ending: August 28, 2019

Release Date: August 29, 2019

- **Prices fall at most locations amid mixed temperatures.** This report week (Wednesday, August 21 to Wednesday, August 28), Henry Hub spot prices traded within a narrow range and fell 1¢ from \$2.25/MMBtu last Wednesday to \$2.24/MMBtu yesterday.

- **Tennessee Zone 4 Marcellus spot prices decreased 6¢ from \$1.72/MMBtu last Wednesday to \$1.66/MMBtu yesterday.** Prices at Dominion South in southwest Pennsylvania fell 6¢ from \$1.80/MMBtu last Wednesday to \$1.74/MMBtu yesterday.

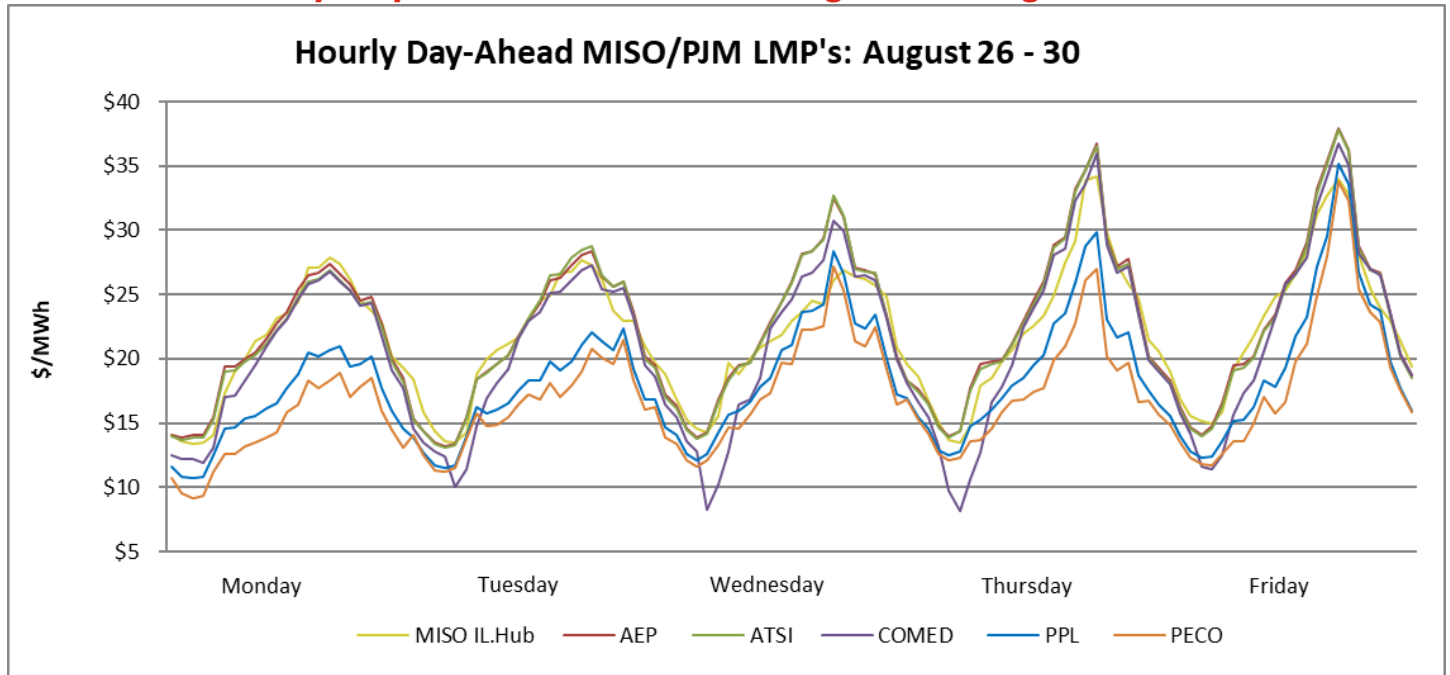
- **Permian Basin prices strengthen throughout the week.** Prices at the Waha Hub in West Texas, which is located near Permian Basin production activities, averaged \$0.97/MMBtu last Wednesday, \$1.28/MMBtu lower than Henry Hub prices.

- **Net injections into storage totaled 60 Bcf for the week ending August 23, compared with the five-year (2014–18) average net injections of 57 Bcf and last year's net injections of 66 Bcf during the same week.** Working gas stocks totaled 2,857 Bcf, which is 100 Bcf lower than the five-year average and 363 Bcf more than last year at this time.

- **The average rate of net injections into storage is 30% higher than the five-year average so far in the refill season (April through October).**

Source: EIA <https://www.eia.gov/naturalgas/weekly/>

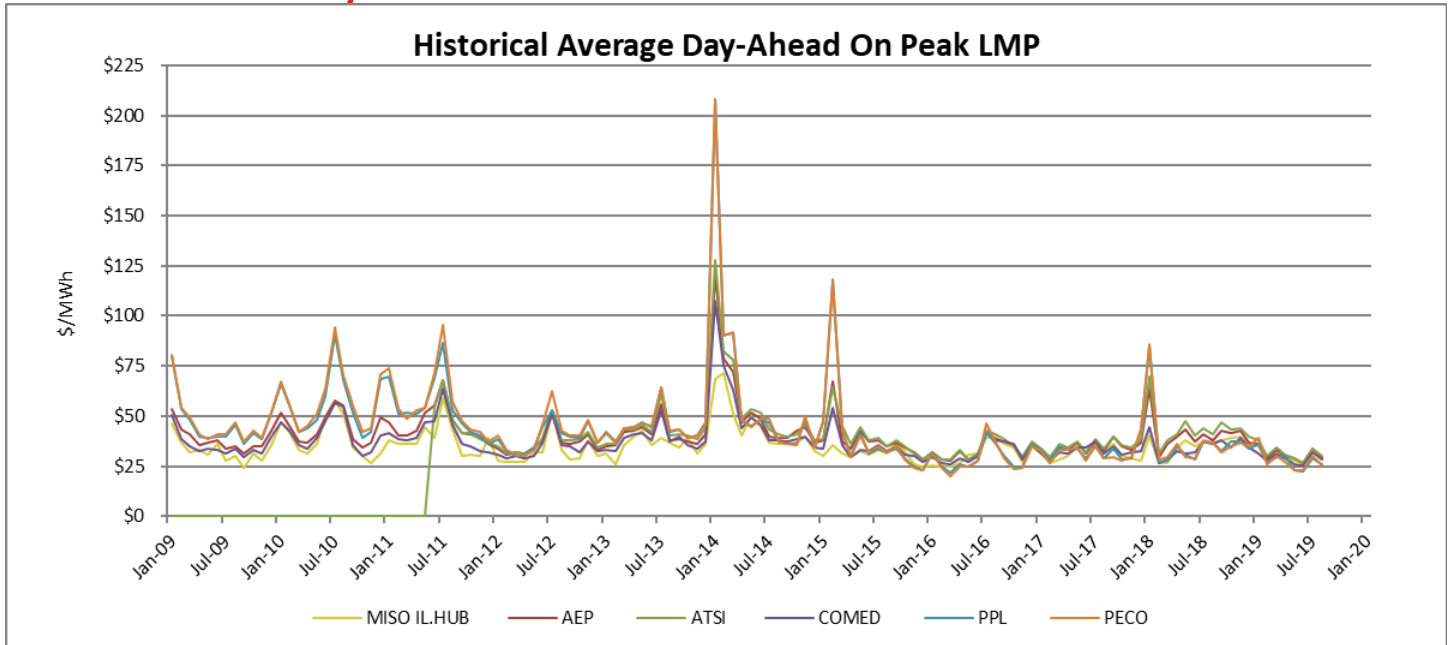
MISO/PJM Hourly Day-Ahead, Locational Marginal Pricing (LMP)



Source: misoenergy.org and pjm.com

*Graph is for illustrative purposes only

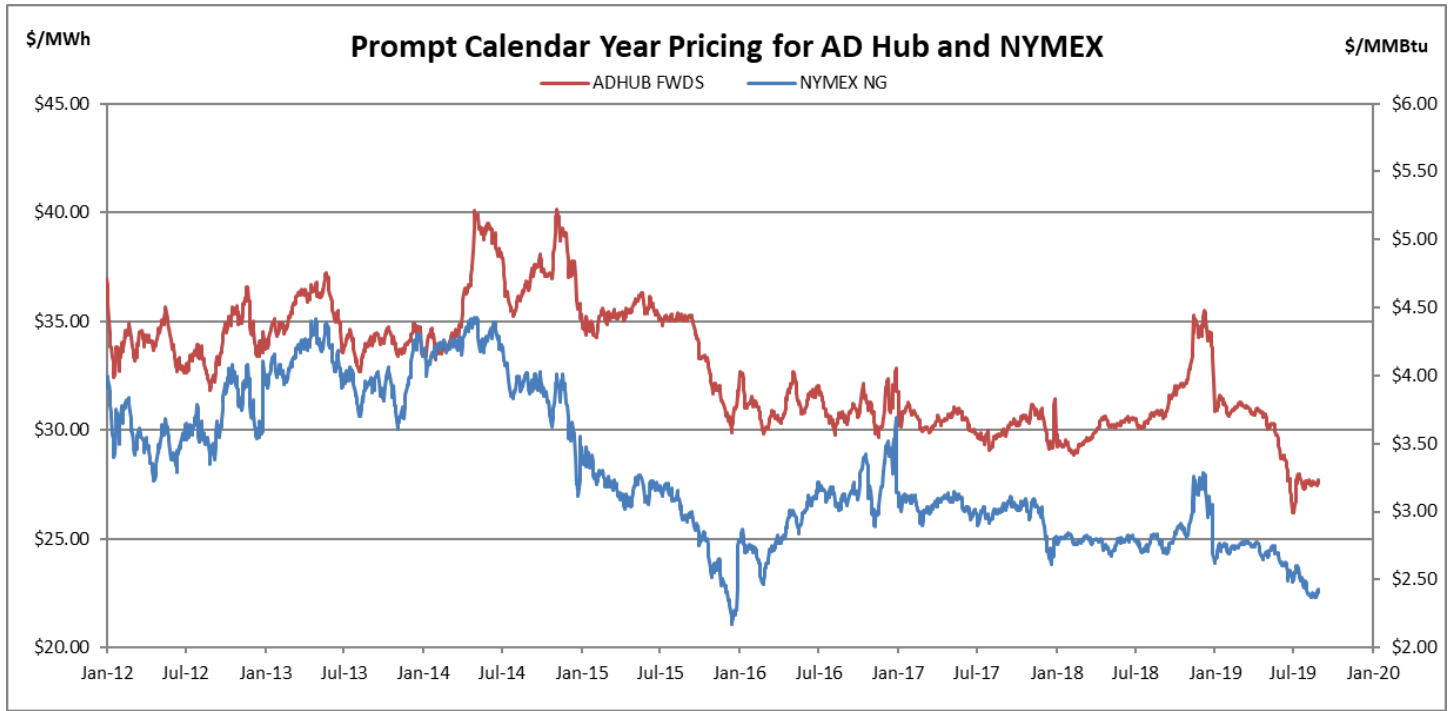
MISO/PJM Monthly Historical On-Peak LMP



Source: misoenergy.org and pjm.com

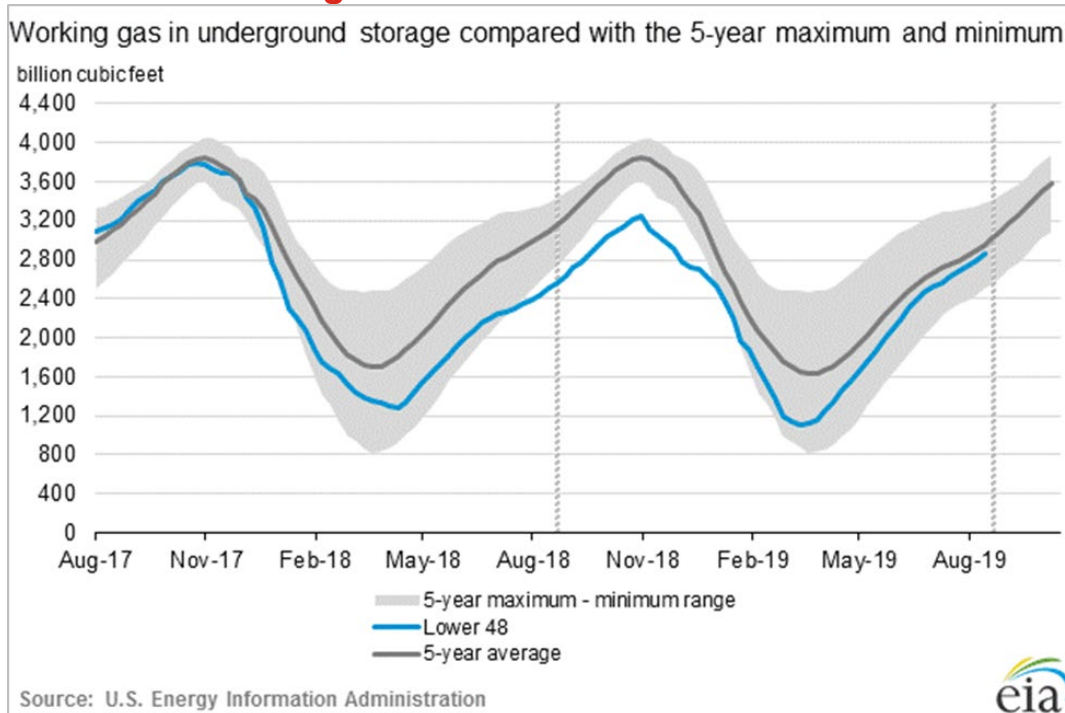
*Graph is for illustrative purposes only

NYMEX Natural Gas vs. Energy Prices



Source: NYMEX Henry Hub Natural Gas

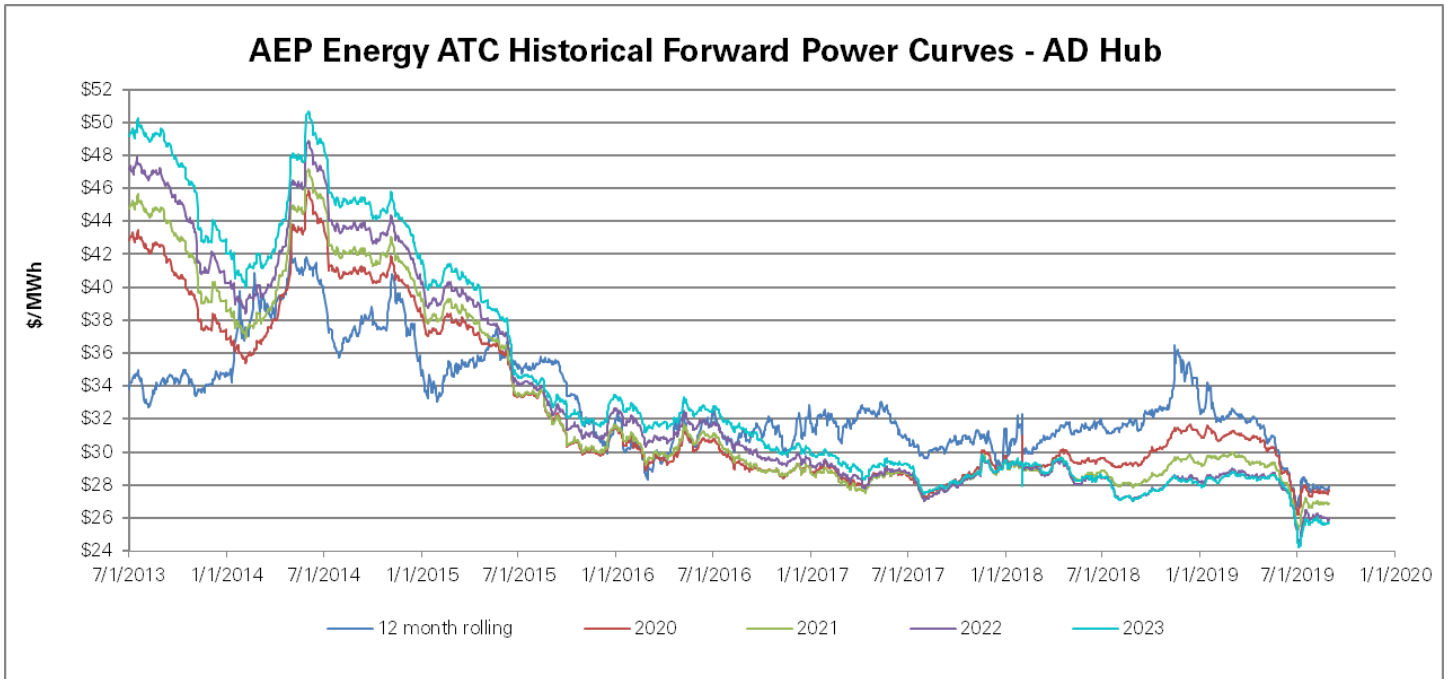
Natural Gas Storage



Source: U.S. Energy Information Administration

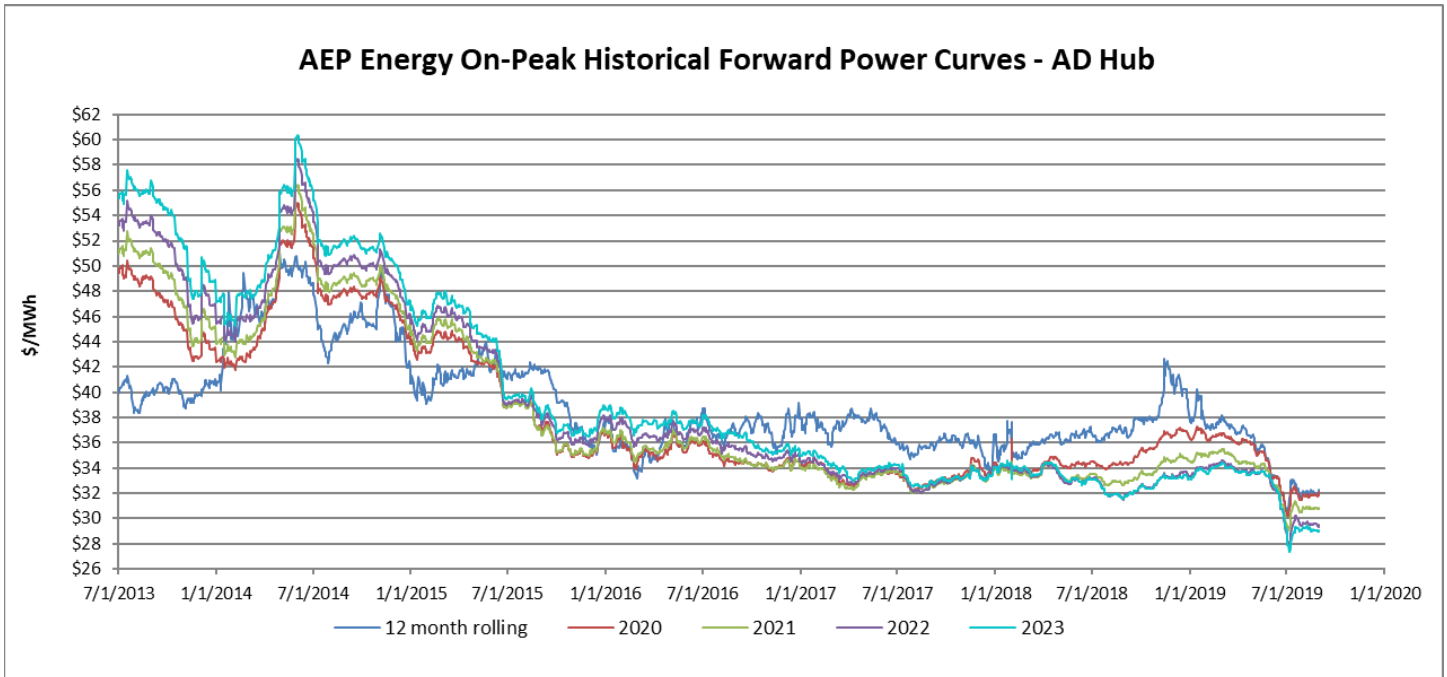


AEP - DAYTON Hub Around-the-Clock (ATC)



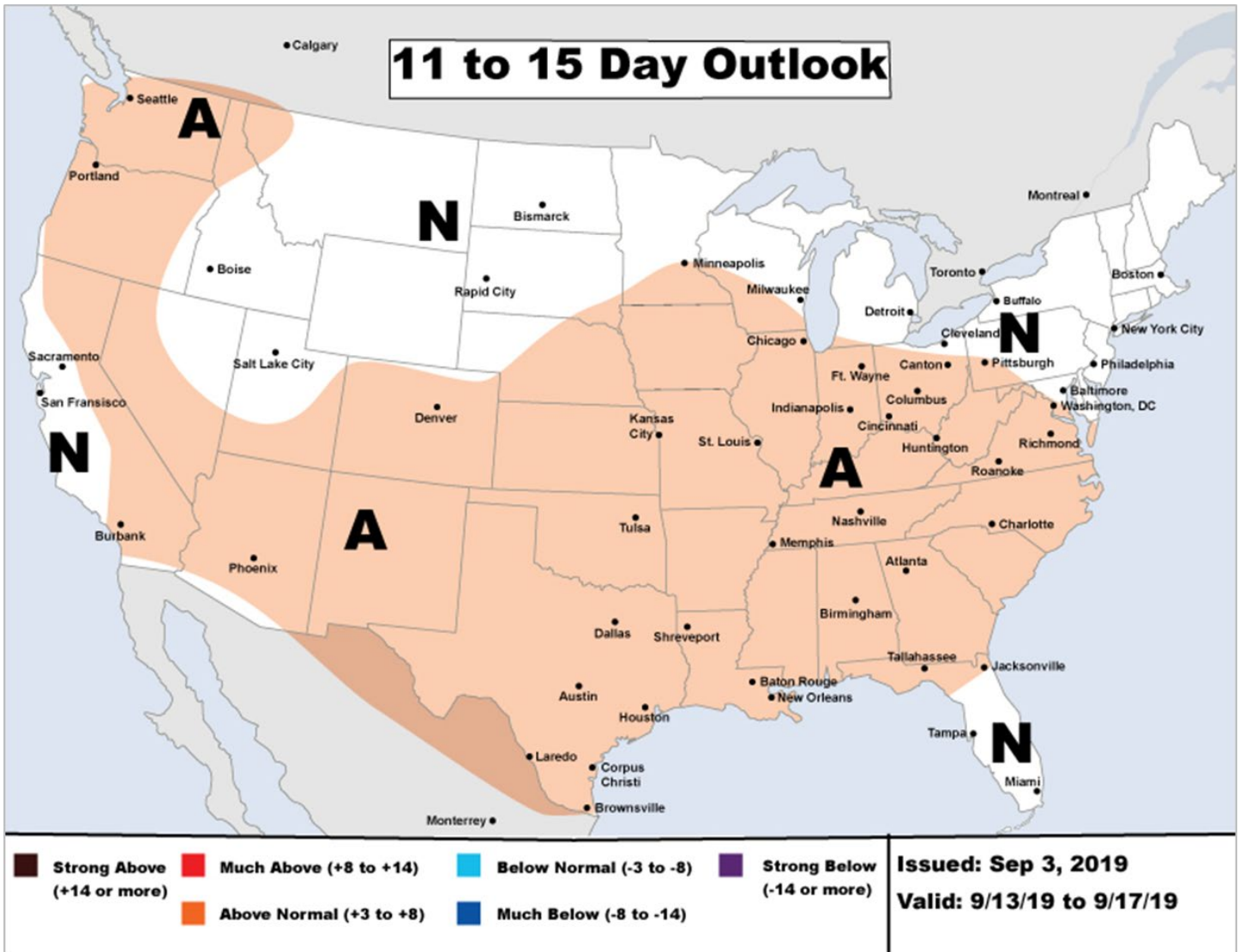
*Graph is for illustrative purposes only

AEP - DAYTON Hub On-Peak



*Graph is for illustrative purposes only

Weather



Source: AEP Internal Meteorologist

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UNDERSTANDING TRANSMISSION COSTS

Transmission is one of the many electric service components affecting energy prices for consumers. It is important to understand how this will affect your company's energy budget. As your trusted energy advisor, AEP Energy can help you calculate how these changes will impact your company and assist in the determination of which energy product best meets your needs. For example, the transmission rate¹ in the New Jersey based Public Service Enterprise Group (PSEG), consumers incurred an increase in 2017 of 21%; 2018 an increase of 8%; and 2019 an increase of 4%. Consumers felt the effect in the Pennsylvania based Pennsylvania Power Company (Penn Power) and Metropolitan Edison (Met-Ed) as rates increased by 15% in 2019. Using this knowledge, AEP Energy can assist in developing a long-term energy strategy for your business.

What Factors Define Transmission?

Transmission is a cost derived from the delivery of energy from generators to consumers in a utility service area. Transmission costs fluctuate by utility and are determined by your Network Service Peak Load (NSPL) and transmission rate (NITS).

Network Service Peak Load (NSPL) is unique to each customer and is determined by your energy demand level at your local utility's transmission network peak. This information can be obtained by your AEP Energy Sales Representative.

Network Integrated Transmission Service (NITS) is based on the Federal Energy Regulatory Commission's (FERC) formula filing taking account for all dollars spent on transmission projects and maintenance. The NITS value and effective date are specific to your respective utility.

PJM is a regional transmission organization (RTO) that coordinates the movement of wholesale electricity in all or parts of Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia and the District of Columbia.

¹Transmission rates available via PJM.com

PJM NETWORK INTEGRATION TRANSMISSION SERVICE

STATES	LOCAL UTILITIES	NITS		% OF CHANGE
		Previous PJM NITS Posting \$/MW-Year Rate	Current PJM NITS Posting \$/MW-Year Rate	
Delaware	Delmarva Power & Light ³	\$32,938	\$42,812	29.98%
District of Columbia	Potomac Electric Power Company (PEPCO) ³	\$31,304	\$31,167	-0.44%
Illinois	Commonwealth Edison (ComEd) ³	\$34,392	\$34,516	0.36%
Maryland	Baltimore Gas & Electric (BG&E) ³	\$32,851	\$35,762	8.86%
	Delmarva Power & Light ³	\$32,938	\$42,812	29.98%
	Potomac Electric Power Company (PEPCO) ³	\$31,304	\$31,167	-0.44%
	Potomac Edison ¹	\$17,895	\$17,895	0.00%
New Jersey	Atlantic City Electric (ACE) ³	\$50,960	\$53,775	5.52%
	Jersey Central Power & Light (JCP&L) ¹	\$23,597	\$22,588	-4.28%
	Public Service Enterprise Group (PSEG) ²	\$130,535	\$135,167	3.55%
Pennsylvania	Duquesne Light ³	\$47,892	\$51,954	8.48%
	Metropolitan Edison (Met-Ed) ¹	\$25,132	\$28,796	14.58%
	Pennsylvania Electric Company (Penelec) ¹	\$25,132	\$28,796	14.58%
	Pennsylvania Power Company (Penn Power) ²	\$54,689	\$55,205	0.94%
	Pennsylvania Power & Light (PPL) ³	\$61,792	\$58,865	-4.74%
	Philadelphia Electric Company (PECO) ¹	\$19,587	\$19,093	-2.52%
	West Penn Power ¹	\$17,895	\$17,895	0.00%

CALCULATING YOUR TRANSMISSION COST

$$\begin{array}{ccccccc}
 \boxed{\text{NSPL}} & \times & \boxed{\text{NITS}} & = & \boxed{\text{ESTIMATED ANNUAL TRANSMISSION COST}} & / & \boxed{\text{ANNUAL USAGE}} & = & \boxed{\text{TRANSMISSION COST PER kWh}} \\
 \boxed{} & & \boxed{} & & \boxed{} & & \boxed{} & & \boxed{} \\
 \boxed{} & \times & \boxed{} & = & \boxed{} & / & \boxed{} & = & \boxed{}
 \end{array}$$

¹FERC Action; ²Effective Calendar Year (i.e. 1/1/2019 - 12/31/2020); ³Effective Energy Year (i.e. 6/1/2018 - 5/31/2019)

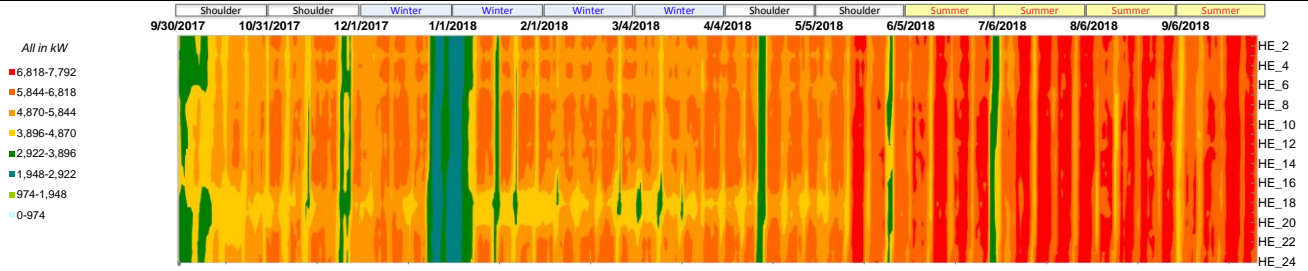
ENERGY DATA ASSESSMENT

Customer Name: Sample Customer
 Account Number: 0002348954
 Utility: AEP

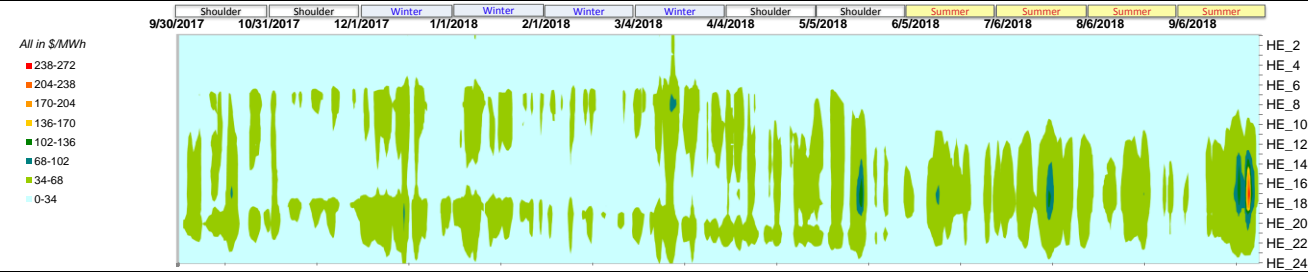
Annual Energy: 49,270 MWh
 Average Load Factor: 80%
 2018 Average 5 CP: 4,767 kW
(based on 5 of 5CP days)

Average Load (On-Peak): 5,609 kW
 Average Load (Off-Peak): 5,656 kW
 Average Monthly Peak: 7,039 kW

DEMAND (HEAT) MAP



ENERGY PRICES (HEAT) MAP

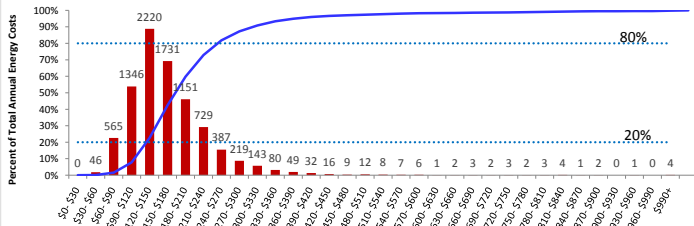


Heat Maps

- Demand Heat map (top) shows energy usage. Red patches show times of high usage and opportunities for curtailment. Changes in patterns throughout the year might indicate weather dependent load drivers such as heating or cooling.
- Vertical patterns on the demand map indicate daily usage patterns, such as weekend or holiday load variation.
- Horizontal patterns show how usage typically changes throughout a single day, such as hours of operation.

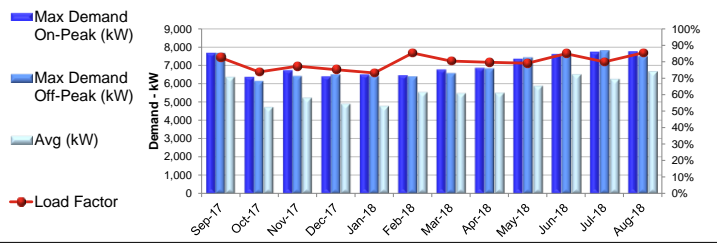
- The Energy Price LMP Heat Map (bottom) shows the hourly price of electricity throughout the year, with blues and greens indicating average prices, and reds and yellows showing price spikes.
- Winter LMPs are highest in the morning and evening, with a dip in the middle. Summer LMPs tend to have a single peak in the afternoon. Reds and oranges typically indicate extreme weather or unexpected load which drives energy prices up.

Hourly Operations costs



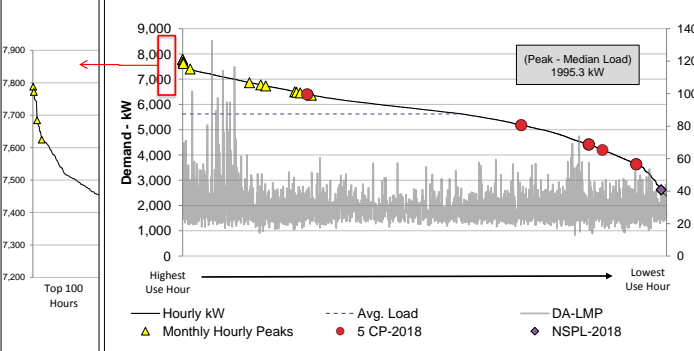
- A customer's hourly operations cost is calculated as their energy use (kW) multiplied by the cost of electricity for a given hour (\$/kWh) and does not include capacity or transmission costs.
- The blue curve shows the percentage of annual operation costs due to hours with operation cost less than or equal to the value of the x-axis.
- The red bars on the graph show how many hours in the year operations costs were within the range indicated on the x-axis (given at the top of each bar).

Monthly Load, Peak Demand & Load Factor



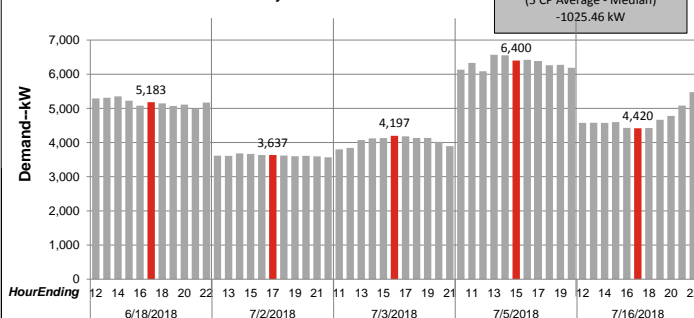
- This chart shows a customer's Average Hourly Load and Maximum On-Peak and Off-Peak Demand for each month.
- Monthly Load Factor is the ratio of Monthly Demand to Peak Demand and is a measure of how efficiently a facility uses energy; higher load factors indicate more efficient energy usage and less fluctuation in load.

Load Duration Curve



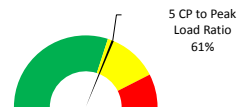
- A Load Duration Curve shows how many hours a year the customer's energy demand is at or above a certain value. A steep incline on the far-left side indicates potential for peak shaving opportunities and load control while a fat tail on the right indicates high off-peak usage.
- Energy use during PLC and NSPL hours set a customer's capacity and transmission costs respectively, which can account for up to 40% of total annual costs. These costs can be reduced by managing load during these hours.
- The light gray lines depict the Day-Ahead Price for that hour, associated with the axis on the right.
- The Monthly Peaks are the highest use hours of each month. If these are clustered together at the left side of the curve, it shows that load does not vary much throughout the year. If most peaks cluster in the center of the graph, with only a few towards the left, the load is likely weather dependent or highly variable.

Hourly Load-2018 5 CP Performance



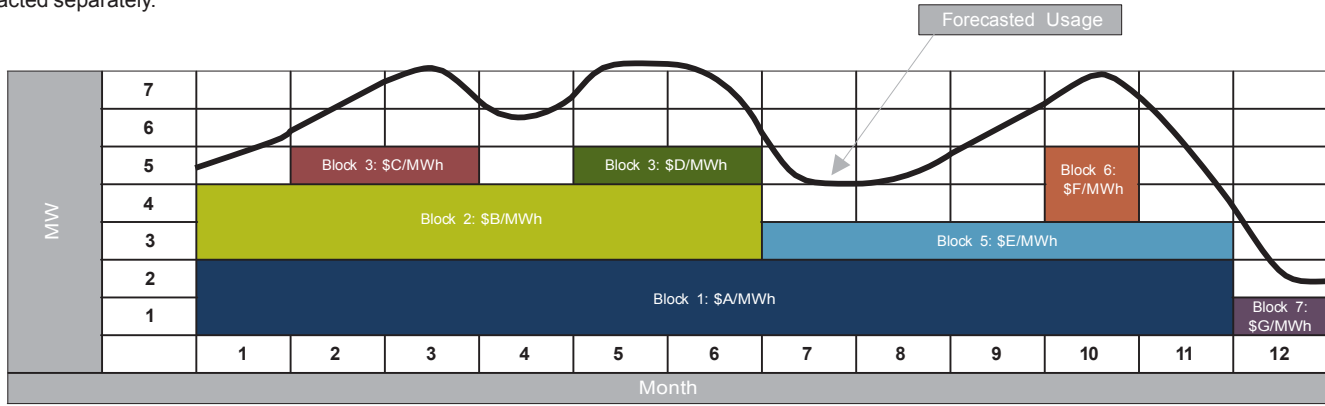
PLC Hour Performance

- PLC Hour Performance shows the customer's performance during the 5 hours (June 2018 through Sept 2018) when PJM load was highest. These hours set the customer's Capacity cost for the following year (June 2019 through May 2020).
- If a customer reduces usage during the 5 CP Hours, the graph will show a much lower demand during those hours compared to the surrounding hours. This type of energy management will result in lower capacity costs for the following delivery year.
- The 5CP to Peak Load Ratio chart in the bottom right shows how close the customer's 5CP average was to their annual peak load.
- A high ratio indicates that a customer's capacity costs are set by their highest use hours. A ratio above 85% is cause for concern.
- A ratio below 60% is ideal and means that customer's capacity costs are set by low use hours.



Index Flex (Variable¹) Plan

The Index Flex (Layered Block) Plan provides customers the flexibility to hedge their energy requirements through multiple block transactions at the customer's discretion. Each block transaction may cover periods ranging from one calendar month to multiple calendar months; choose between On-Peak, Off-Peak and Around-The-Clock hours; also select between constant firm or pass-through components. Each block will be priced and transacted separately.



This graph is for illustrative purposes only.

What Does it Include?

Component ¹	Price
Energy Supply	Firm/Variable
Capacity	Pass-Through or Constant
Transmission ²	Pass-Through or Constant
Ancillaries	Pass-Through or Constant
Losses	Pass-Through or Constant
RPS ³	Firm

¹*For Ohio Only - Pursuant to the Public Utilities Commission of Ohio ("PUCO" or "Commission") Case No. 14-568-EL-COI and Commission guidelines, the product herein is being defined as "Variable".* AEP Energy's component charges are represented above with the Index Flex Plan. The components represent AEP Energy's charges in general; such components may change in relation to changes to the utilities and ISO/RTO's tariff and rider changes, state public utilities commission laws or regulations or customer's usage, among others. Applicable taxes will be applied per state law. Distribution charges are billed by the local utility and are excluded from AEP Energy's cost components. ²Ohio service areas will continue to charge for transmission separately.

³Renewable Portfolio Standard (RPS) is a state regulation that requires a specified percentage of renewable energy to be generated.

Product Benefits

- AEP Energy's Index Flex Plan sets Energy and Renewable Portfolio Standard during the agreement period regardless of energy market fluctuations. However, your monthly bill may vary depending on how much electricity you use.
- Purchase On Peak and / or Off Peak blocks up to 75% of annual load
- Ideal for customers with annual usage of 10,000MWh or greater
- Aggregate blocks amongst accounts within Local Distribution Company
- Lock hedged blocks when energy prices support your budget
- Secure a position against potentially rising energy market prices
- Limit regulatory pass-through events when choosing to pass-through non-energy components
- Passing through non-energy components allow you to keep 100% of the savings from Peak Load Management and Energy Efficiency projects

Product Features

- Components constant during contract, hedged energy blocks and Renewable Portfolio Standard
- A customer will pay variable energy price based on remaining MWhs outside of hedged block
- Blocks purchased must be $\geq 100kW$
- Cheaper hedged block energy prices versus paying for 100% load following premiums
- Flexible term lengths
- Statement details provided to customers' choosing electronic billing
- Interval (Hourly) meters required
- Dual or single consolidated billing offered

ACT NOW.

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