

Public Power PARTNERS



POWER SUPPLY



GENERATION

S&P 500	2,171	+25	+1.09%
GlobalDow	1,104	+13	+1.14%
Gold	1,965	+30	+1.53%
Oil	1,165	+18	+1.56%
	77.56	0.00	0.12%

FINANCIAL



MEMBER SERVICES



SUSTAINABILITY

American Municipal Power, Inc.



Projects Update

Painesville City Council

November 18, 2013

Pamala Sullivan, Sr. VP of Marketing/Operations
John Bentine, Sr. VP General Counsel
Mike Perry, Sr. VP of Generation Services

Agenda

- About AMP
- Painesville Power Supply
- Prairie State Project Update
- Prairie State Billing

About AMP

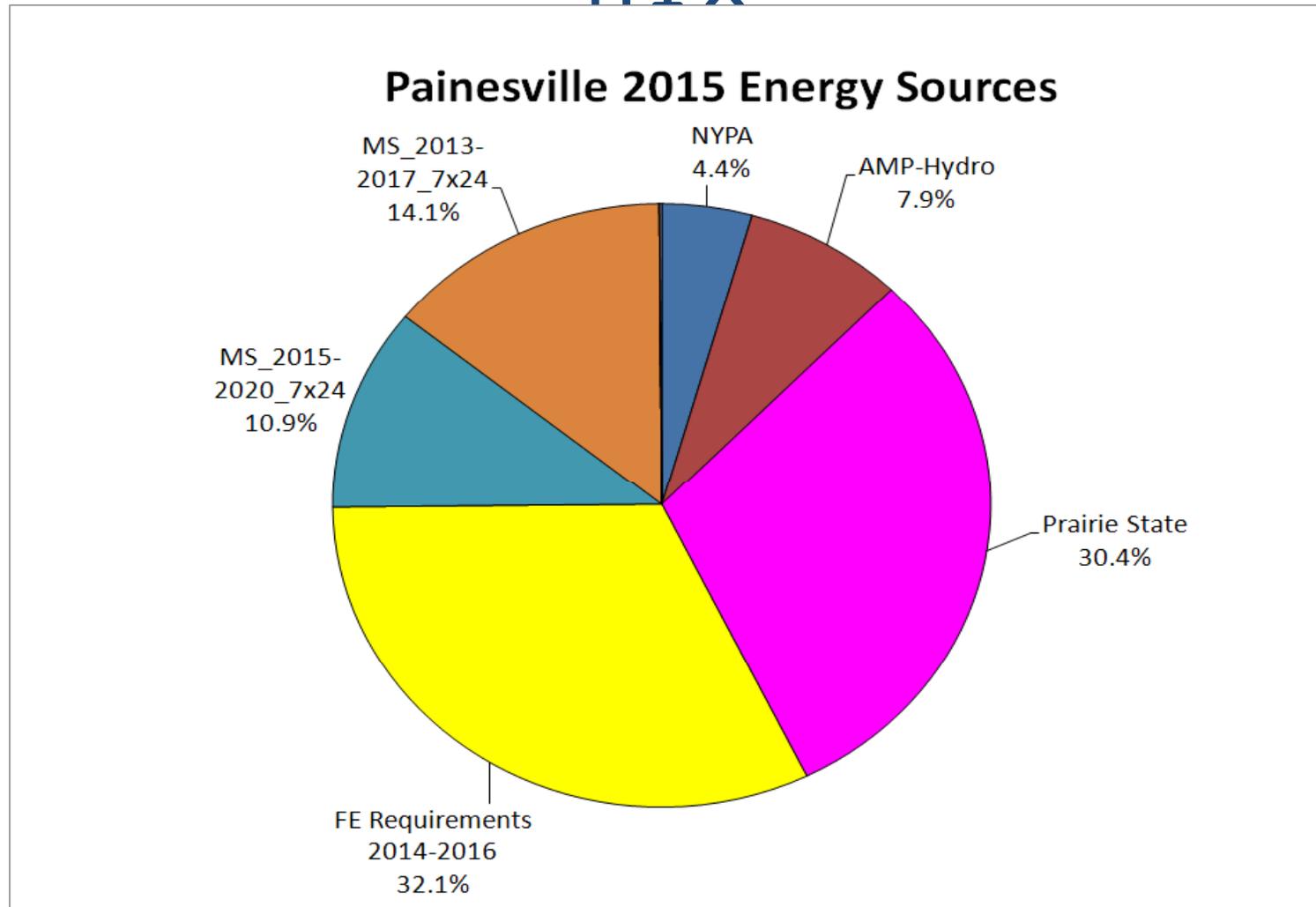
- AMP formed as a nonprofit corporation in 1971
- Owned by 129 members including 128 municipal electric communities in Ohio (82), Pennsylvania (30), Michigan (6), Virginia (5), Kentucky (3), West Virginia (2) and the Delaware Municipal Electric Corporation (DEMEC)
- Project Based Organization
 - Own and/or operate generating facilities on behalf of membership
 - Each member's governing body makes decision on participation in projects

About AMP

- Corporate Governance
 - Board of Trustees consists of 20 community representatives (meets 1-1/2 days per month)
- Project Governance
 - Each project has a Participant Committee that is elected among the Participants (meets quarterly)
 - Both decision making and advisory roles
 - AMP Board Committee for each Project (meets monthly)
 - Project Participants meet at least yearly at Annual Conference

Painesville Power Supply

Painesville Power Supply Mix



7

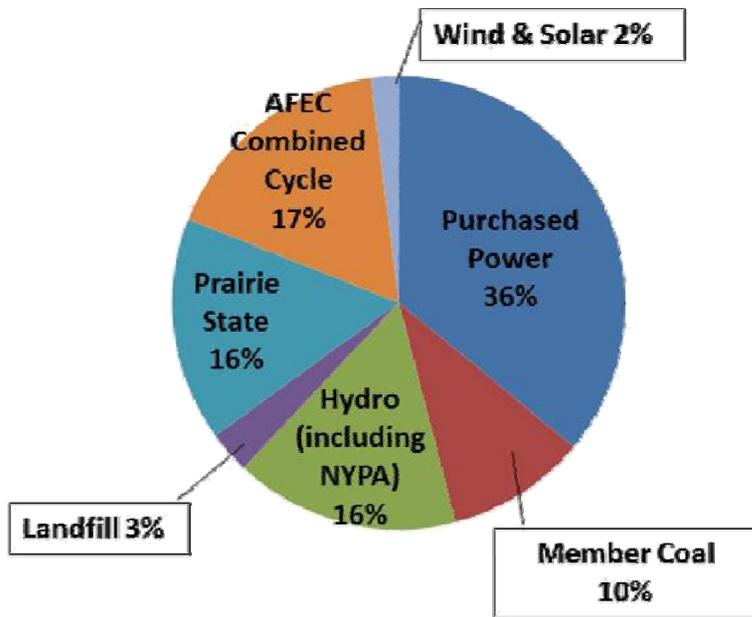
Any Painesville and JV2 Generation would be sold to market

American Municipal Power, Inc.



AMP vs. Public Power (IL, IN, MI, OH, WI)

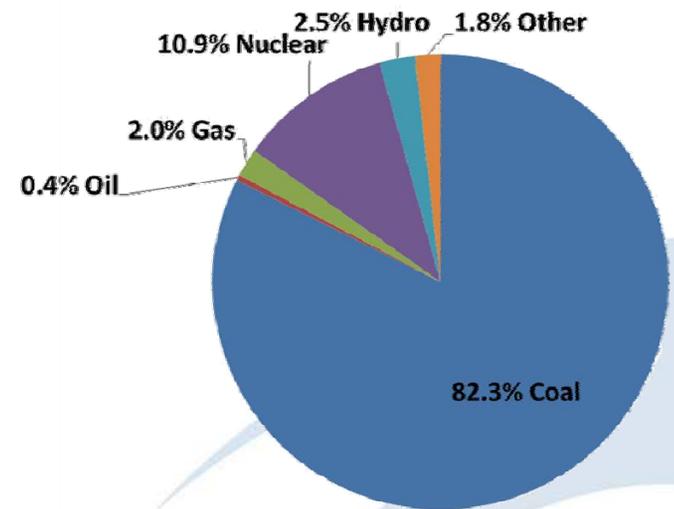
AMP – 2015 (Energy)



Note:

- Member coal Includes Paducah and Princeton's Prairie State through KMPA
- Wind & Solar Includes Member Owned Solar
- Hydro Includes Member Owned Hydro

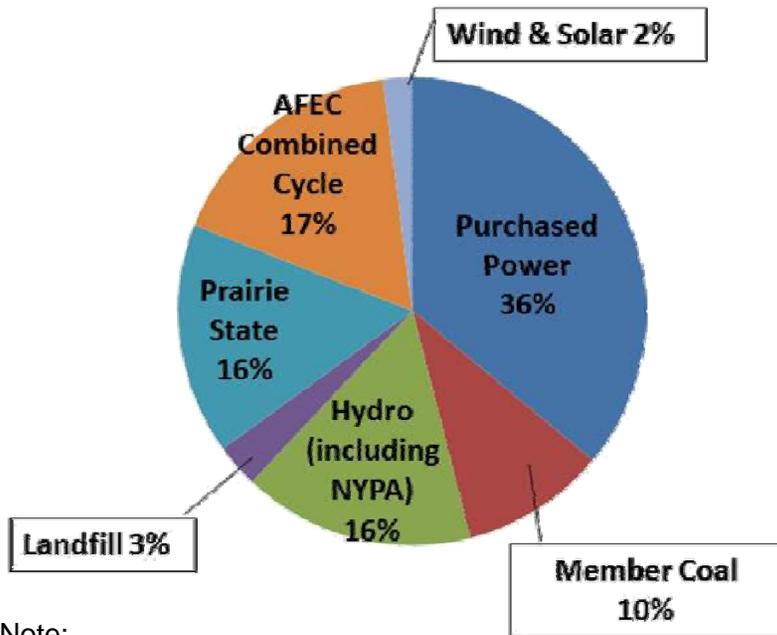
Public Power (Energy) (Regional)



Source: APPA Directory Year 2012

AMP vs. Industry (Ohio)

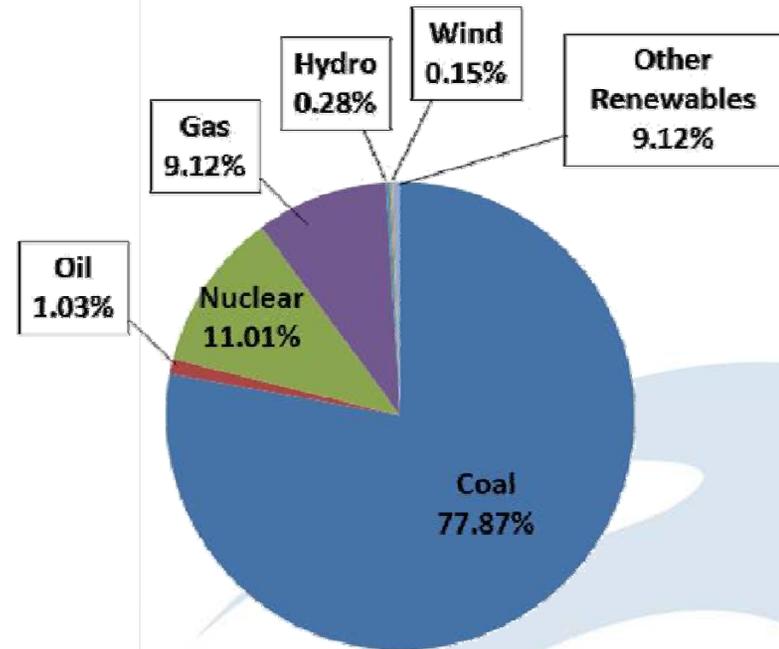
AMP – 2015 (Energy)



Note:

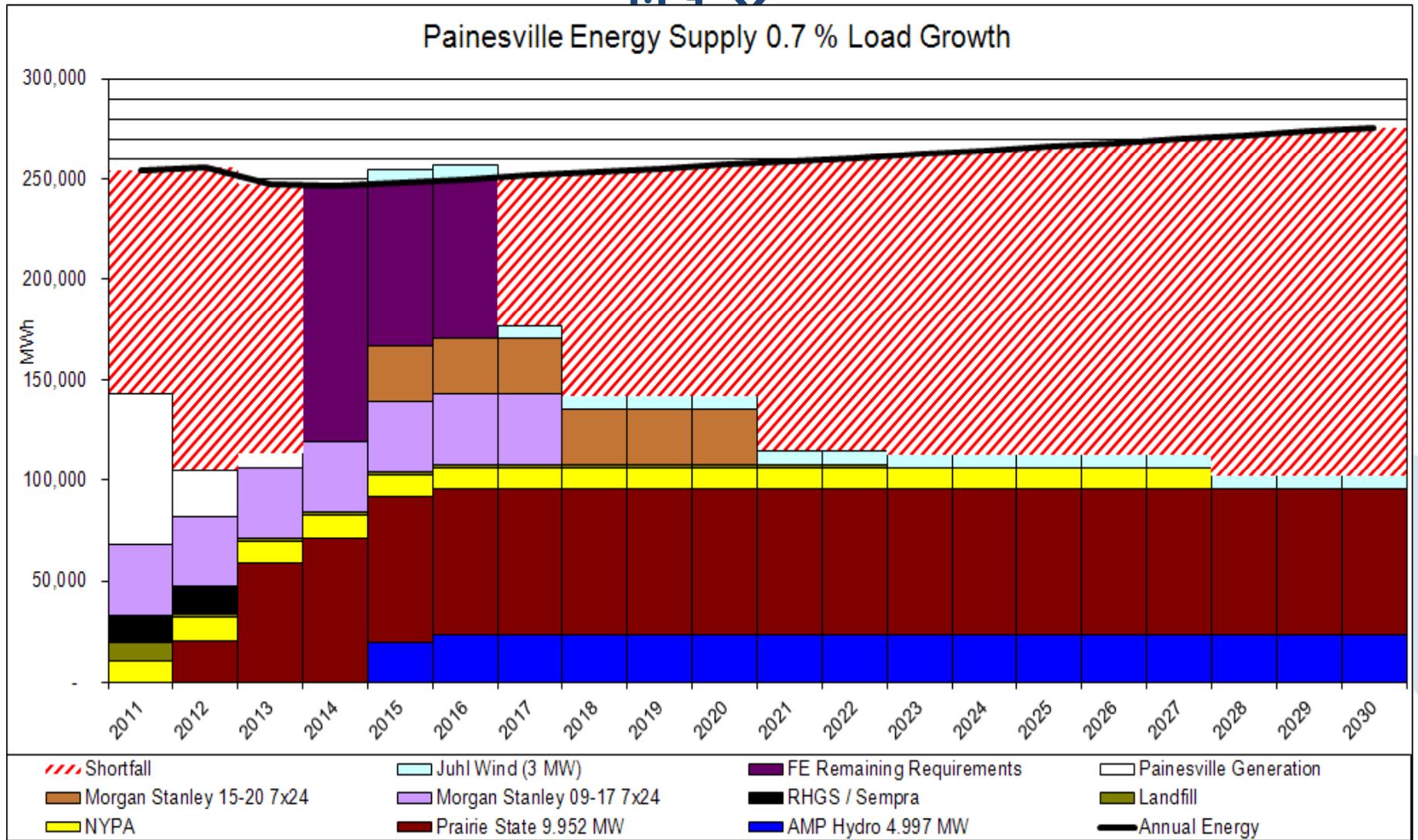
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- Hydro Includes Member Owned Hydro

Industry (Energy)

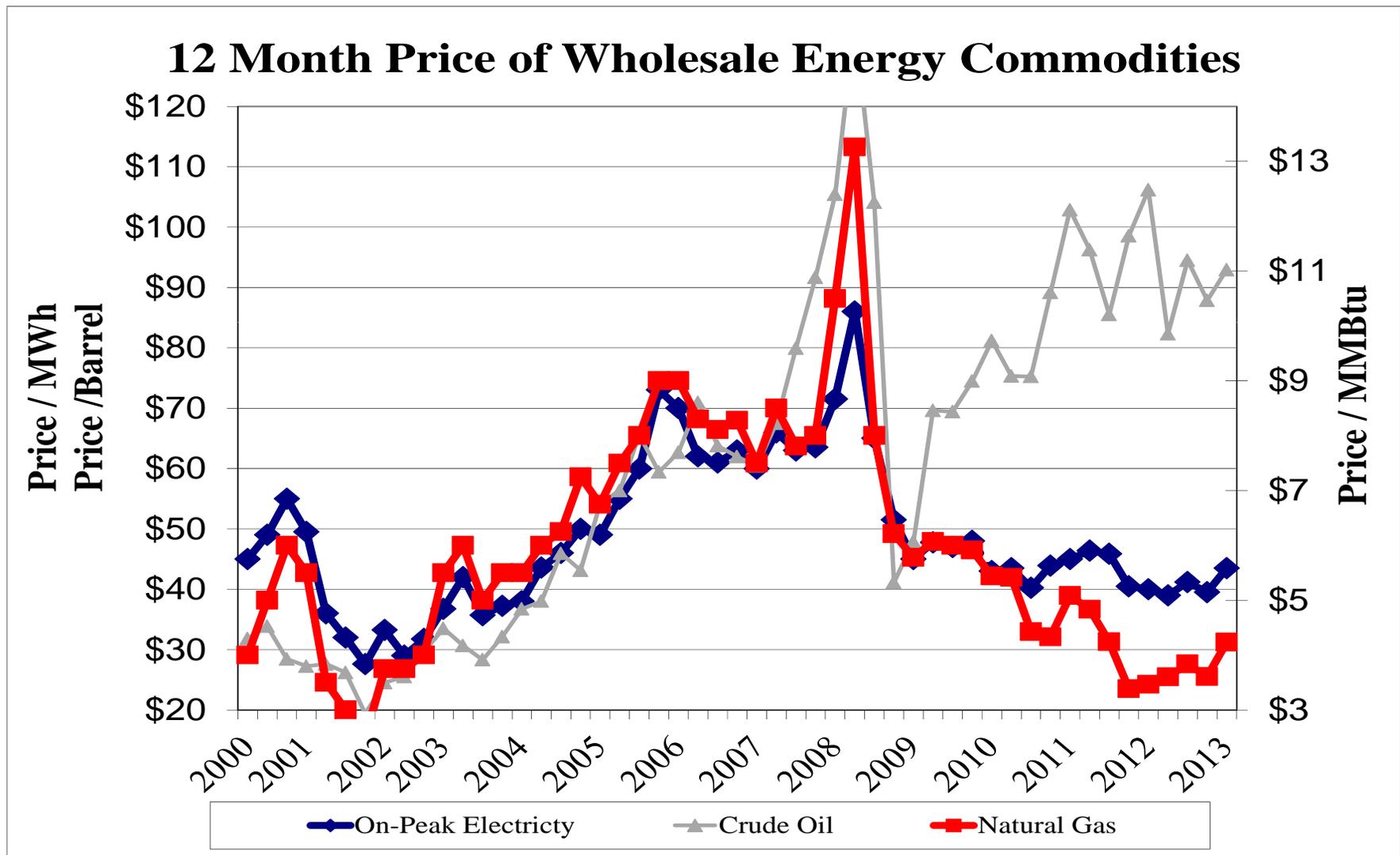


Source: Edison Electric Institute year 2011

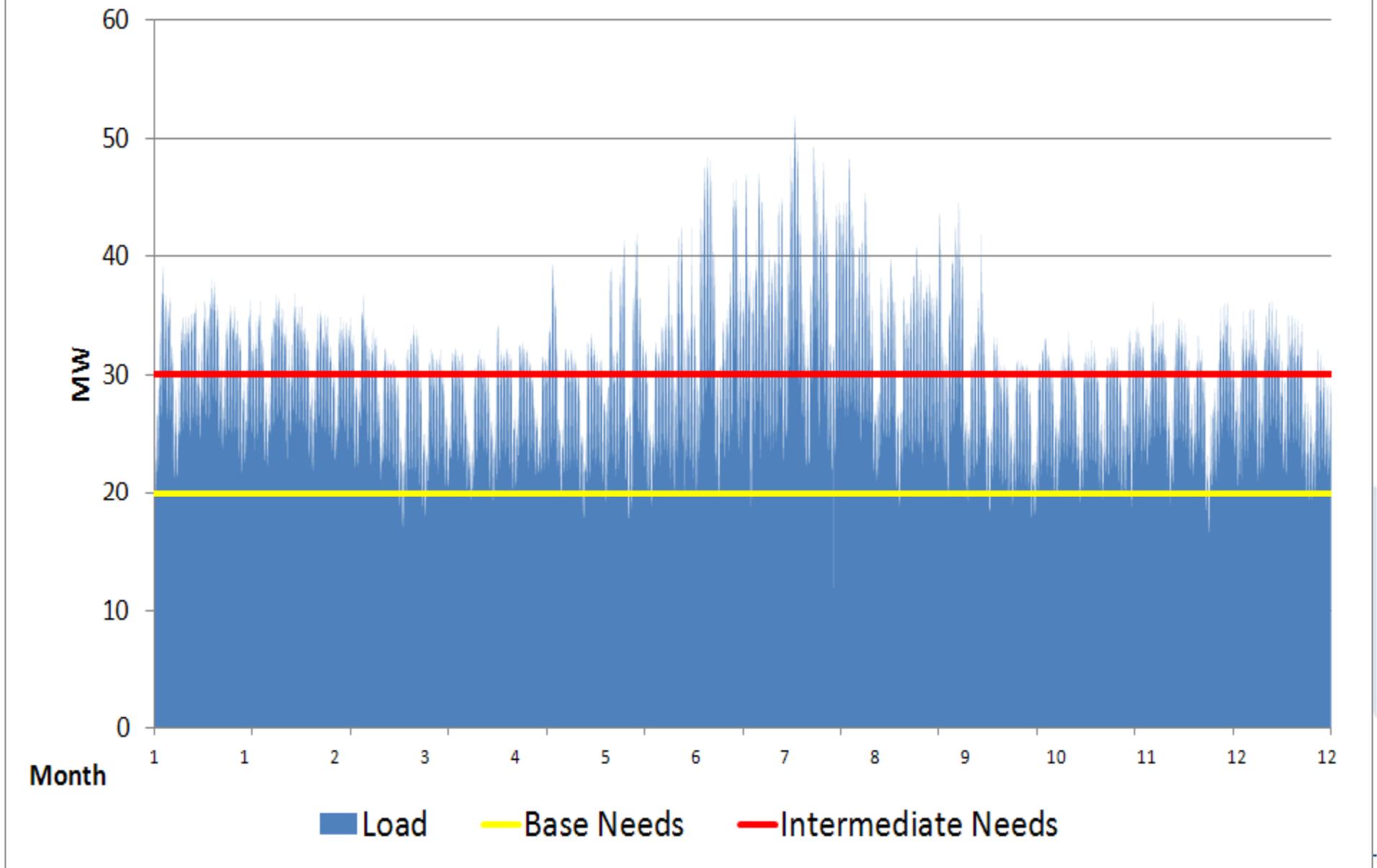
Painesville Power Supply Mix



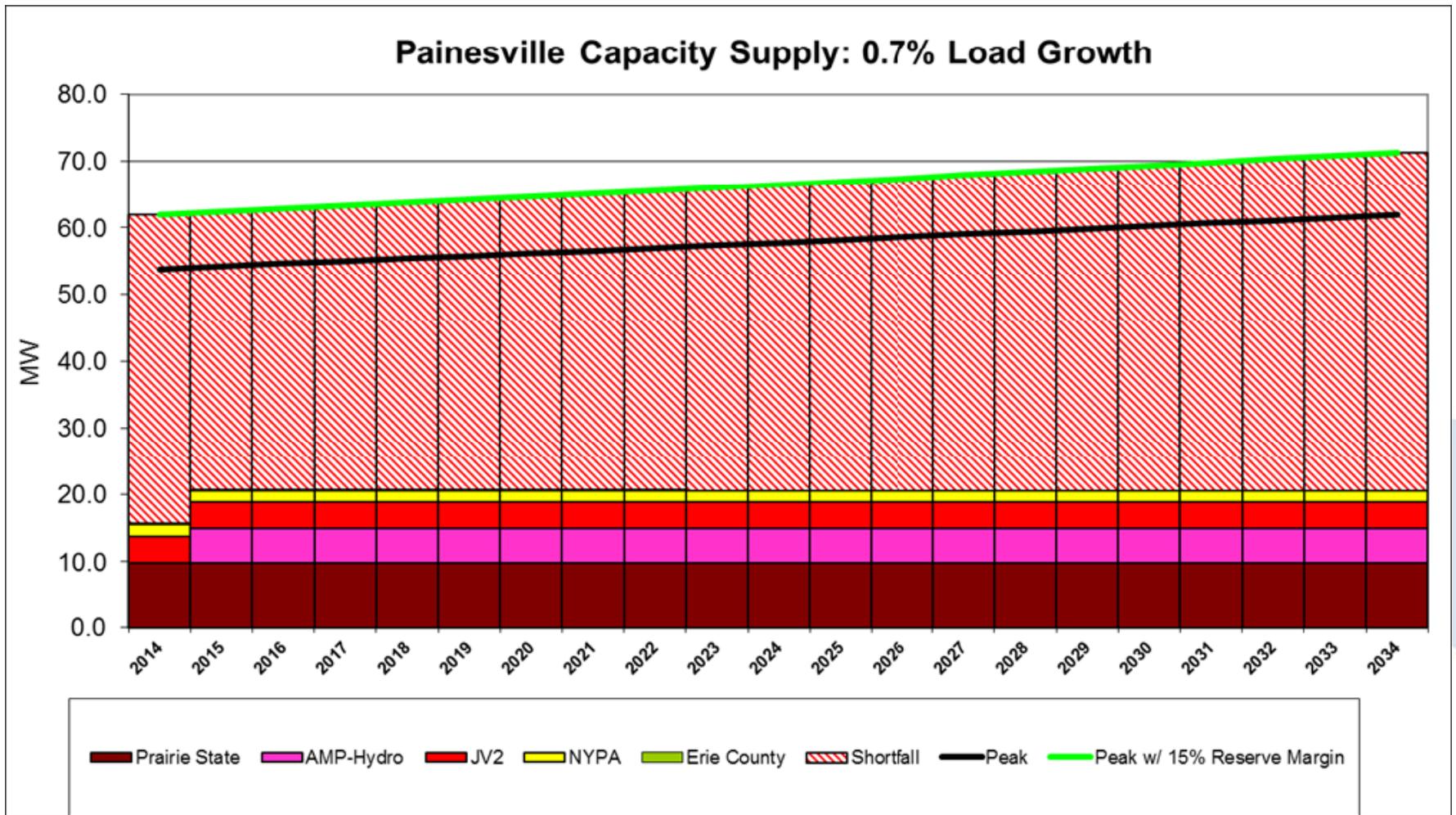
Energy Markets



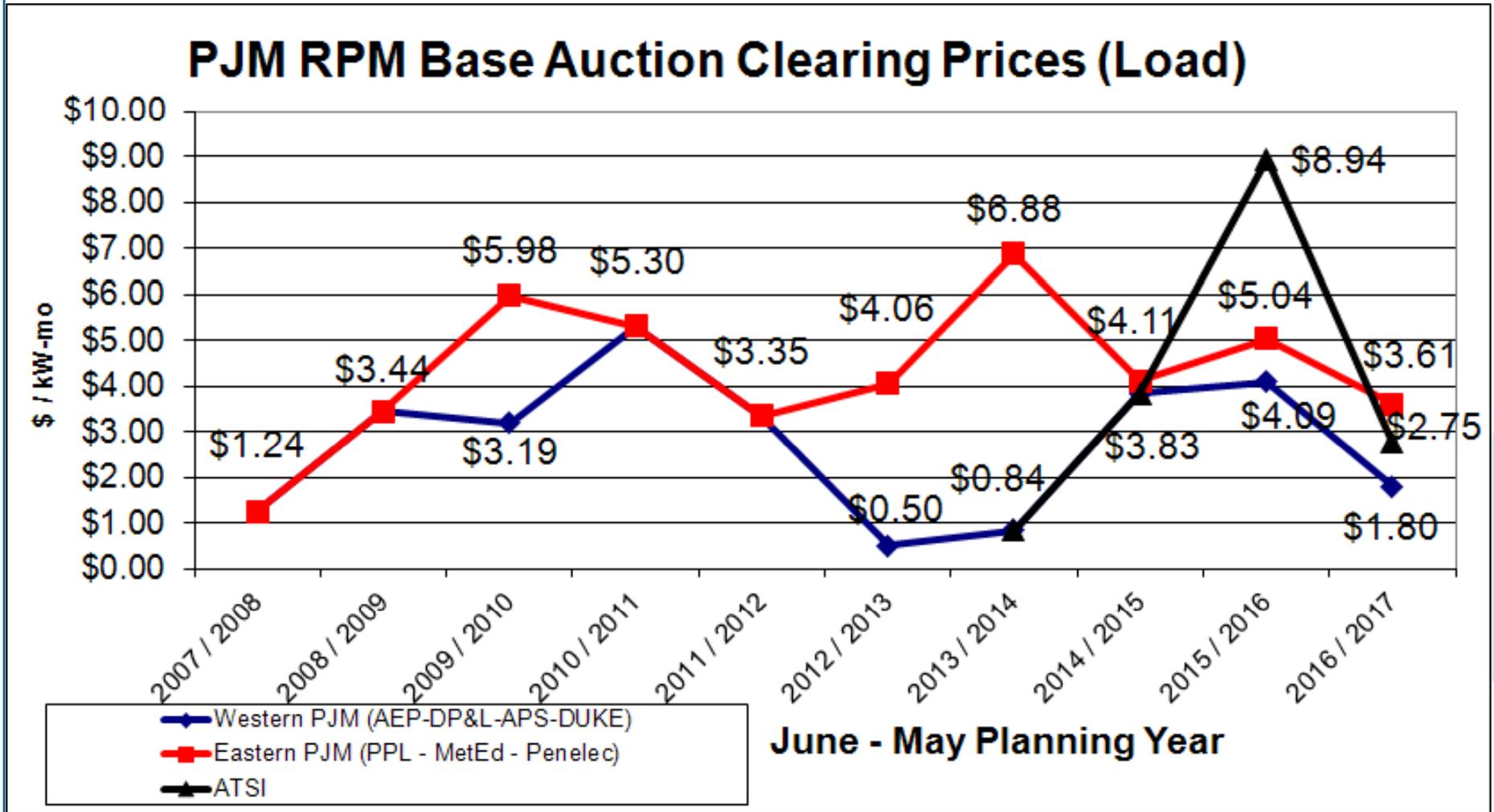
Painesville 2012 Hourly Load



Painesville Power Supply Mix



PJM Auction Results



Prairie State Update

Prairie State Energy

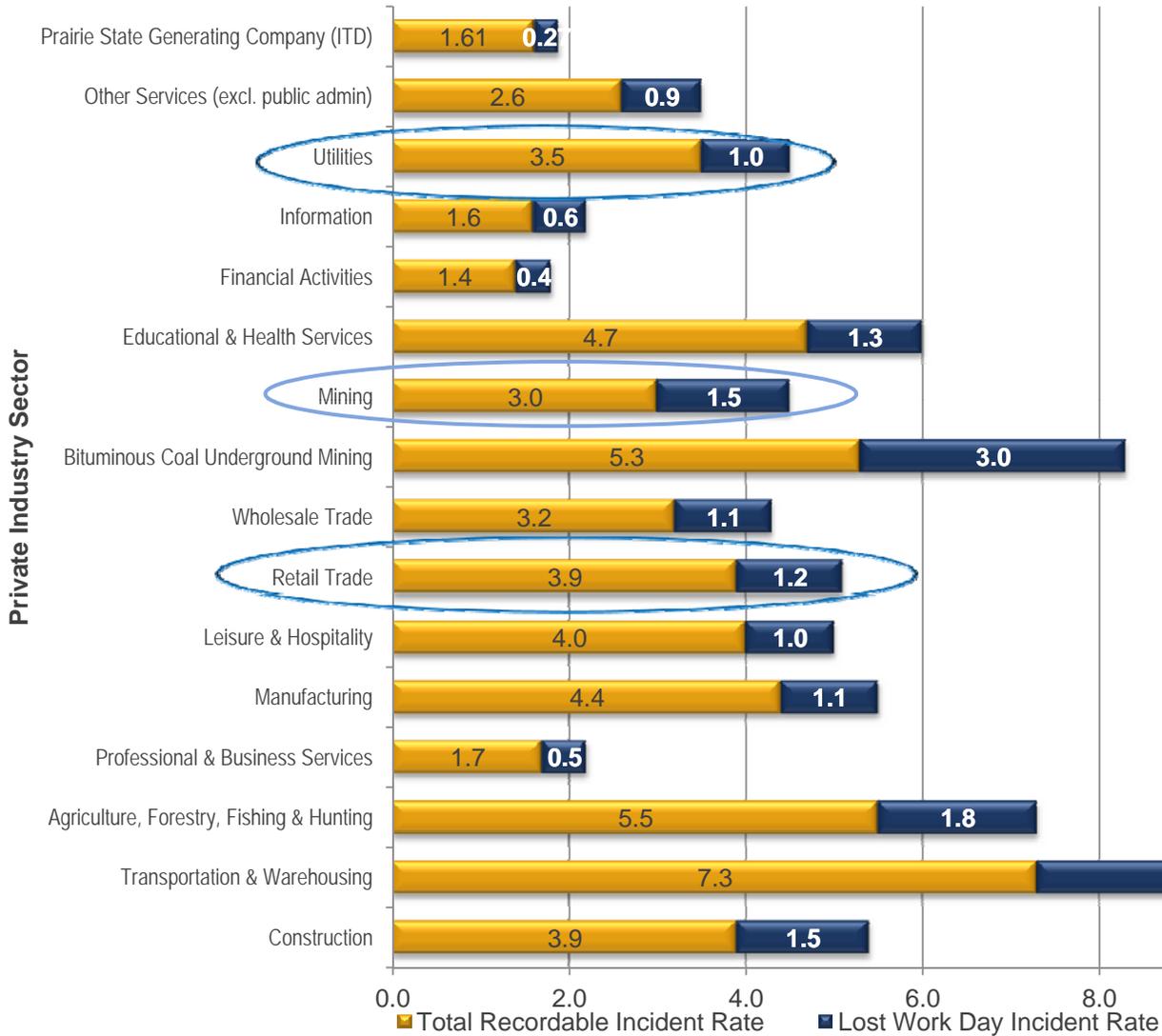


- ✓ Nearly **7 Million Tons** of Coal Mined Annually to fuel **1,600** megawatt Power Plant
- ✓ **Largest** coal power plant built in the U.S. **since 1982**
- ✓ **4,000** construction jobs at peak; more than **500** permanent jobs

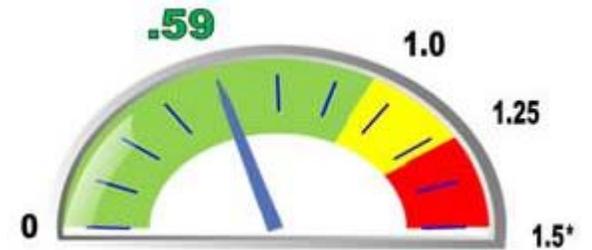
Project Status

- Painesville Participation = 9.952 MW
- 68 AMP Member Participants
- Unit 1
 - Commercial operation June 2012
 - Exceeded capacity performance testing (812 MW)
- Unit 2
 - Commercial operation November 2012
 - Exceeded capacity performance testing (816 MW)
- Both units exceeded heat rate performance testing (greater efficiency than projected)
- Project is 100% financed

Safety & Compliance



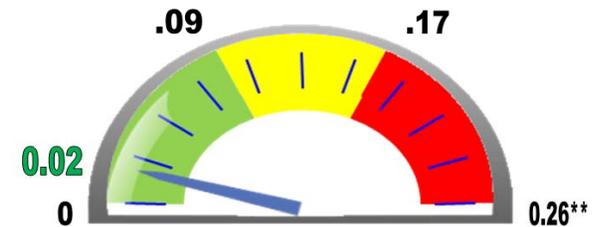
Source: U.S. Bureau of Labor Statistics, 2011



CPID

YTD - September 2013

*Midwest regional average



S & S Citations per MSHA Inspection Hour

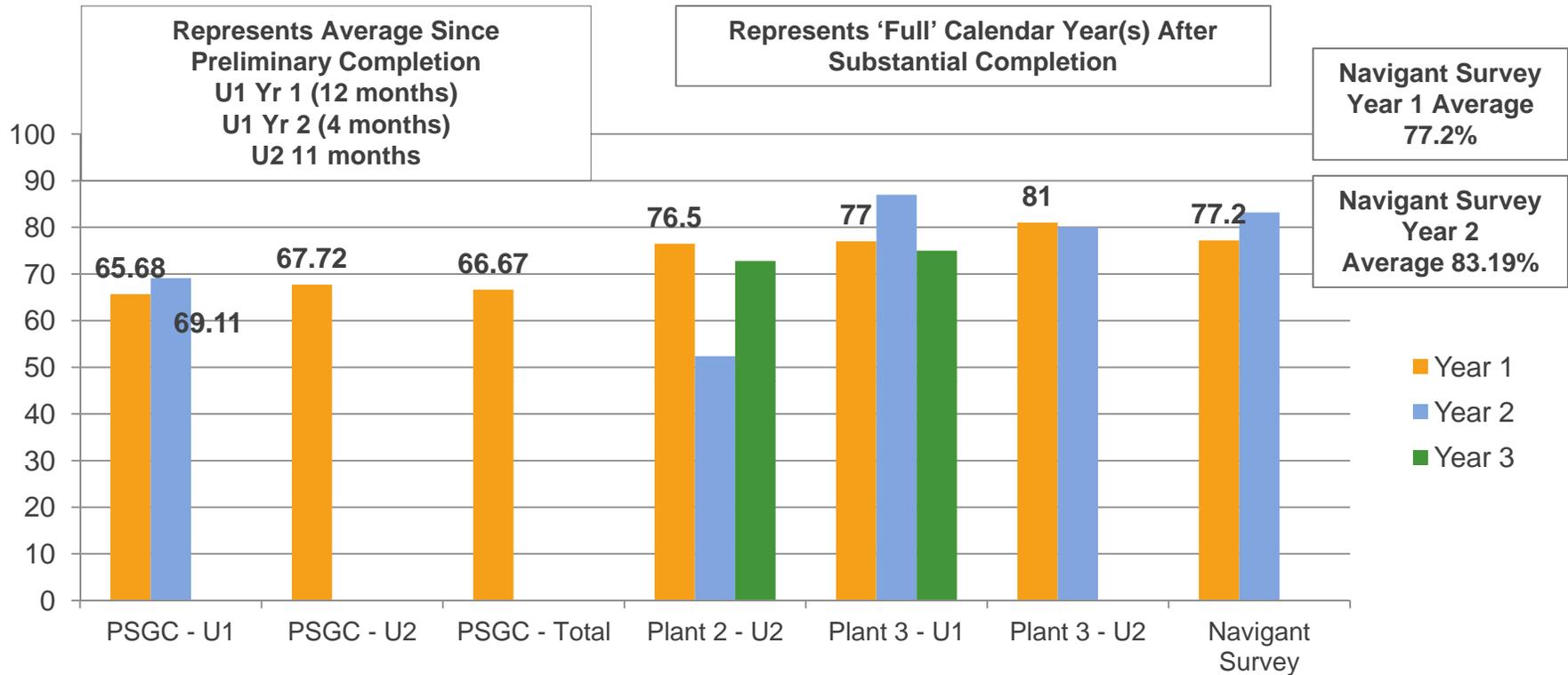
YTD - September 2013

**75th percentile of national industry average

Operations/Costs Summary – 2013 as of September 30, 2013

Category	Forecast (9 & 3)	Budget	Notes
Construction Capital	\$4,876.8M	\$4,903.6M	Forecasting ~ \$29M less than May 2013 revised budget, and ~ \$59M less than original 2013 budget.
Capital Plan	\$46.2M	\$51.1M	
Mine Production	4.8M tons	6.4M tons	Ending inventory of 1M tons
EAF (Equivalent Available Factor)	65.8%	85.1%	50 unit days of scheduled outage Oct-Nov
EFOR (Equivalent Forced Outage Rate)	26.9%	5.0%	

How Does the PSEC Compare?



➤ Navigant Survey

- Year 1: EAF averaged / range 64.35% - 90%; Year 2: EAF averaged / range 75.17% - 91.2%
- Year 1: EFOR averaged ~ 15%, with a range of 8.08% - 29.08%. Year 2: EFOR averaged ~ 12%, with a range of 6.68% - 18.45%

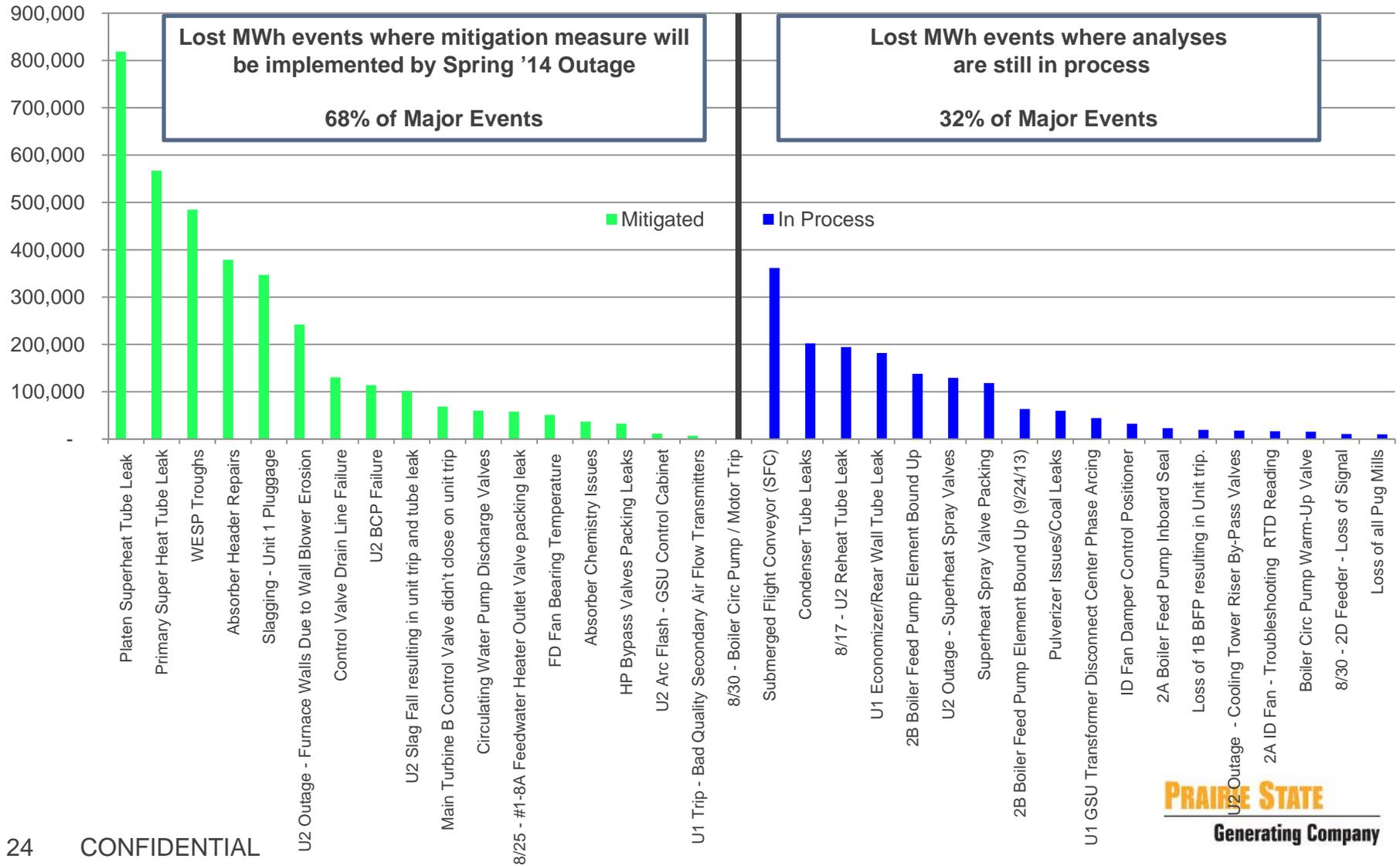
➤ EFOR Drivers of Supercritical Units First Two (2) Years of Operation

- Boiler Tube Leaks, Turbine (Shaft Seals, Bearings & Controls), Bottom Ash Conveyor (SFC), Boiler Steam Piping, Minor Boiler Overhaul, Electrical & DCS

Lost MWh Mitigated vs. In Process

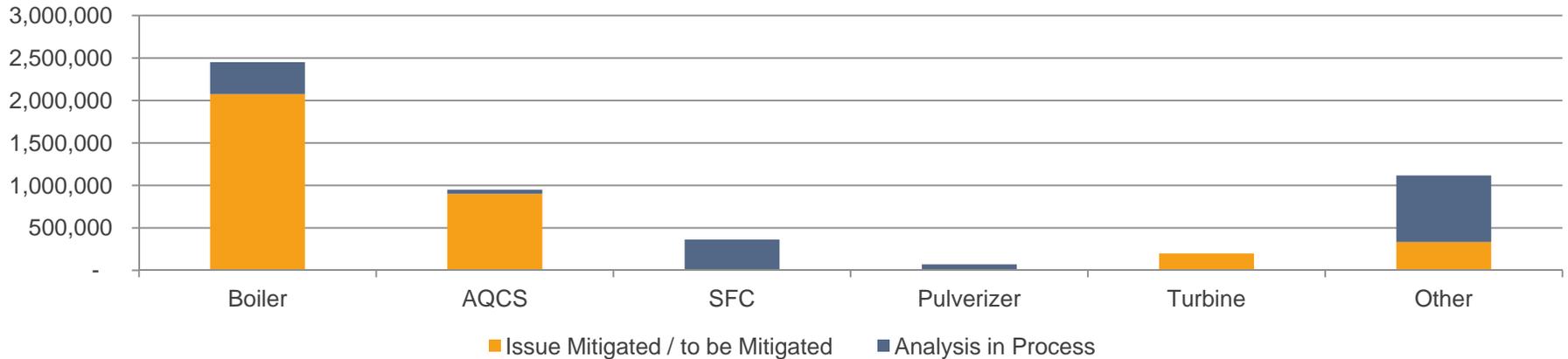
June 2012 – September 2013

~5.4M Lost MWh



Lost MWh Mitigated / To Be Mitigated

June 2012 – September 2013

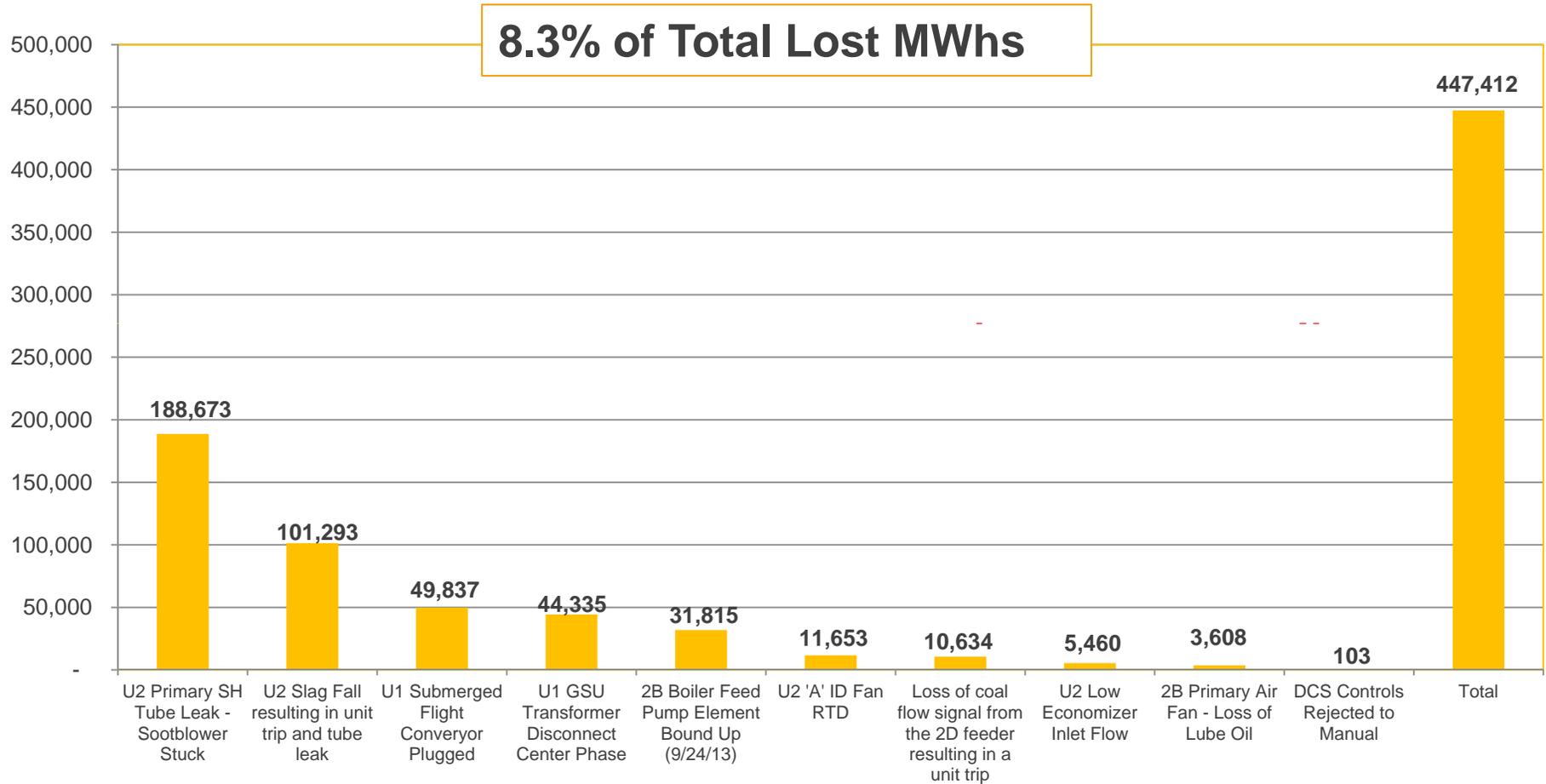


- ~ 68% Lost MWh issues mitigated / to be mitigated by Spring 2014 Outage (3.5M MWh)
- Events below represent 81% of lost mwh whose mitigation effort has yet to be determined:

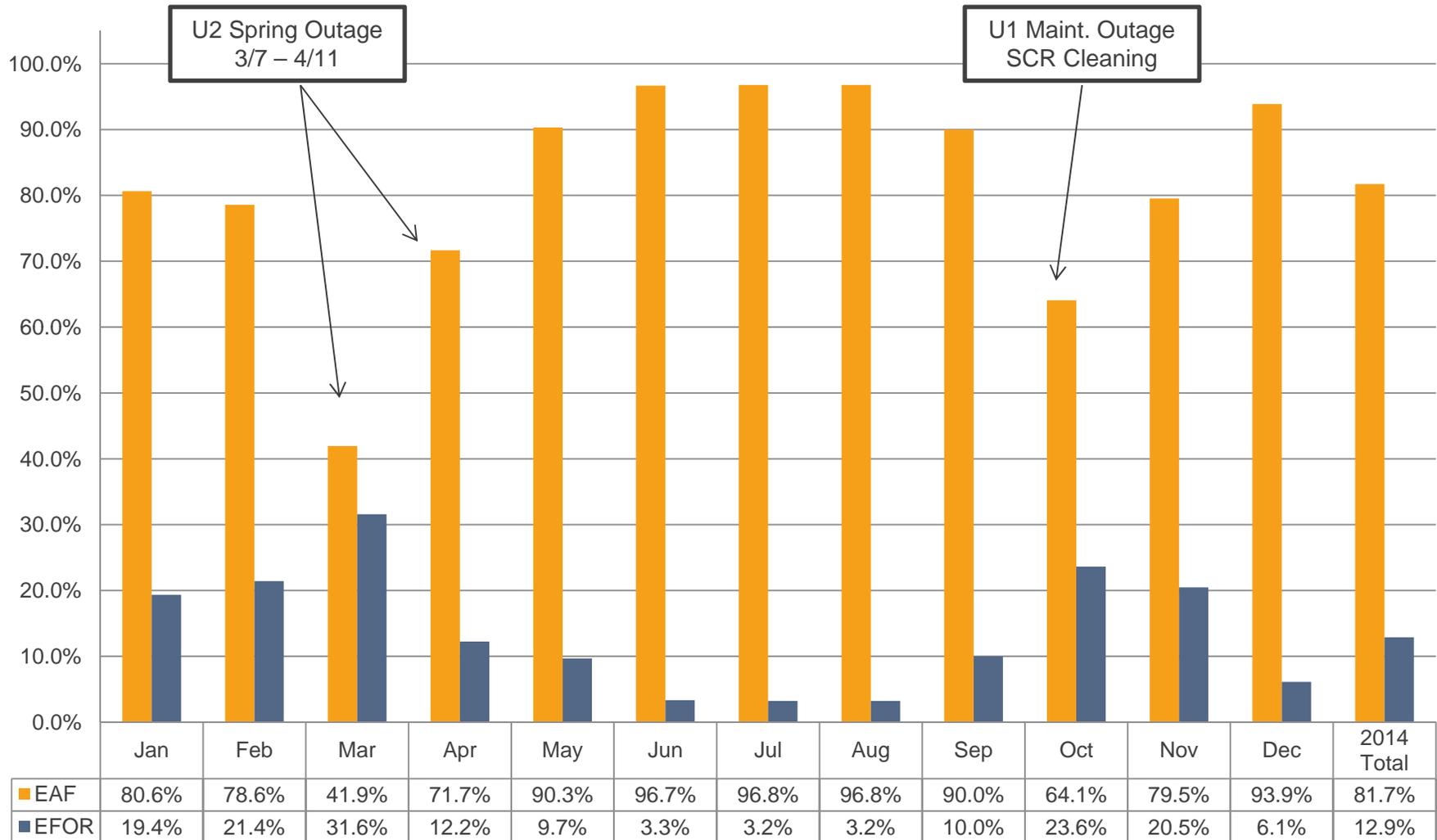
Event	% Lost MWh	Solution Considered
SFC (Submerged Flight Conveyor)	22%	Material upgrades, load sheds, sprocket teeth guides
Condenser Tube Leaks	12%	Revise start-up & monitoring procedures, hotwell conductivity cells modified to improve usefulness
Tube Leak – Reheat Section	12%	Waiting on completion of RCA (Root Cause Analysis)
Economizer/ Rear wall tube leak	11%	Waiting on completion of RCA
Boiler Feed Pump Element Bound up	9%	Waiting of final report from OEM (Original Equipment Manufacturer)
Superheat Spray Valves	8%	Revised torque specs for valve body to bonnet bolts
Superheat Spray Valves packing	7%	Improved style of valve packing has been installed

Human Performance

June 2012 – September 2013



2014 Plan EAF & EFOR



Prairie State Fuel Advantage vs. 2013 Actuals

Coal Source*	BTUs	\$ Per MMBtu
2014 PSGC Budget**	8,400	\$1.00
2013 PSGC Forecast**	8,400	\$1.17
Powder River Basin	8,800	\$1.82
Illinois Basin	11,400	\$2.26
Northern Appalachia	12,200	\$2.34

* Plant average delivered cost and BTU's

** Excludes debt service and coal reserve costs

PSGC: Preserving and Enhancing Value

❑ Mine Plan Improvements (40' cuts):	\$53.5M
❑ Power Plant Output above nameplate:	\$67.7-\$116.4M ⁽¹⁾⁽²⁾
❑ Heat Rate	\$22.2M ⁽¹⁾
❑ Near Field	\$278M ⁽³⁾

1/ Assumed U2 performance is same as that achieved by U1

2/ Range based on estimated market forwards excluding and including CO₂ pricing

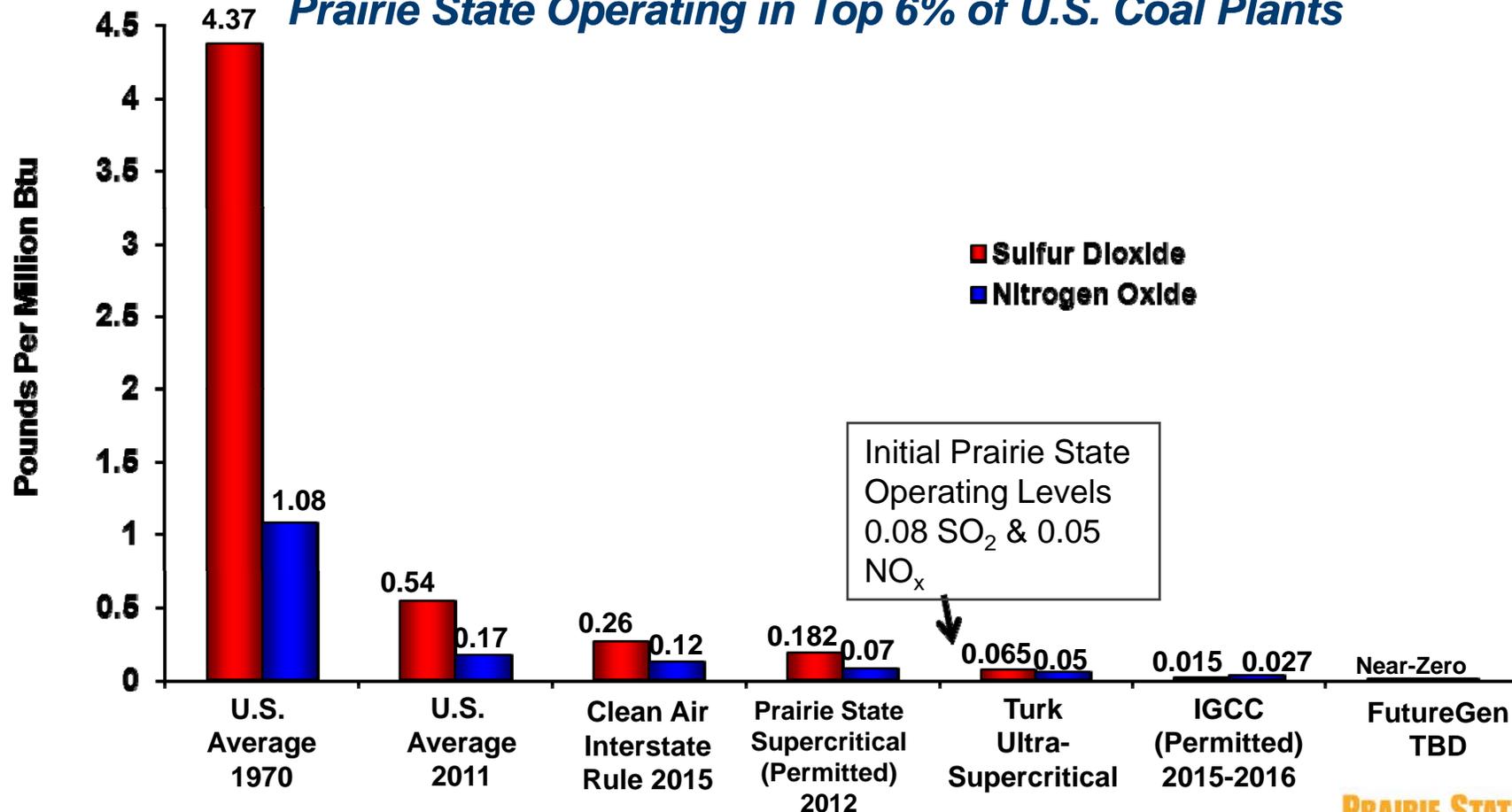
3/ Represents transportation cost savings

EPA Regulations Impact

- Prairie State Generating Company (PSGC), with its investment in Best Available Control Technology, is able to meet and/or exceed all of the new and currently proposed U.S. EPA regulations on coal-fired power plants

Prairie State and Other Coal Plants A Technological Success Story

U.S. Coal Fleet Over 80% Reduction in SO₂ & NO_x in 40 Years
Expect over 40% Reduction in SO₂ and NO_x in Next 4 Years
Prairie State Operating in Top 6% of U.S. Coal Plants

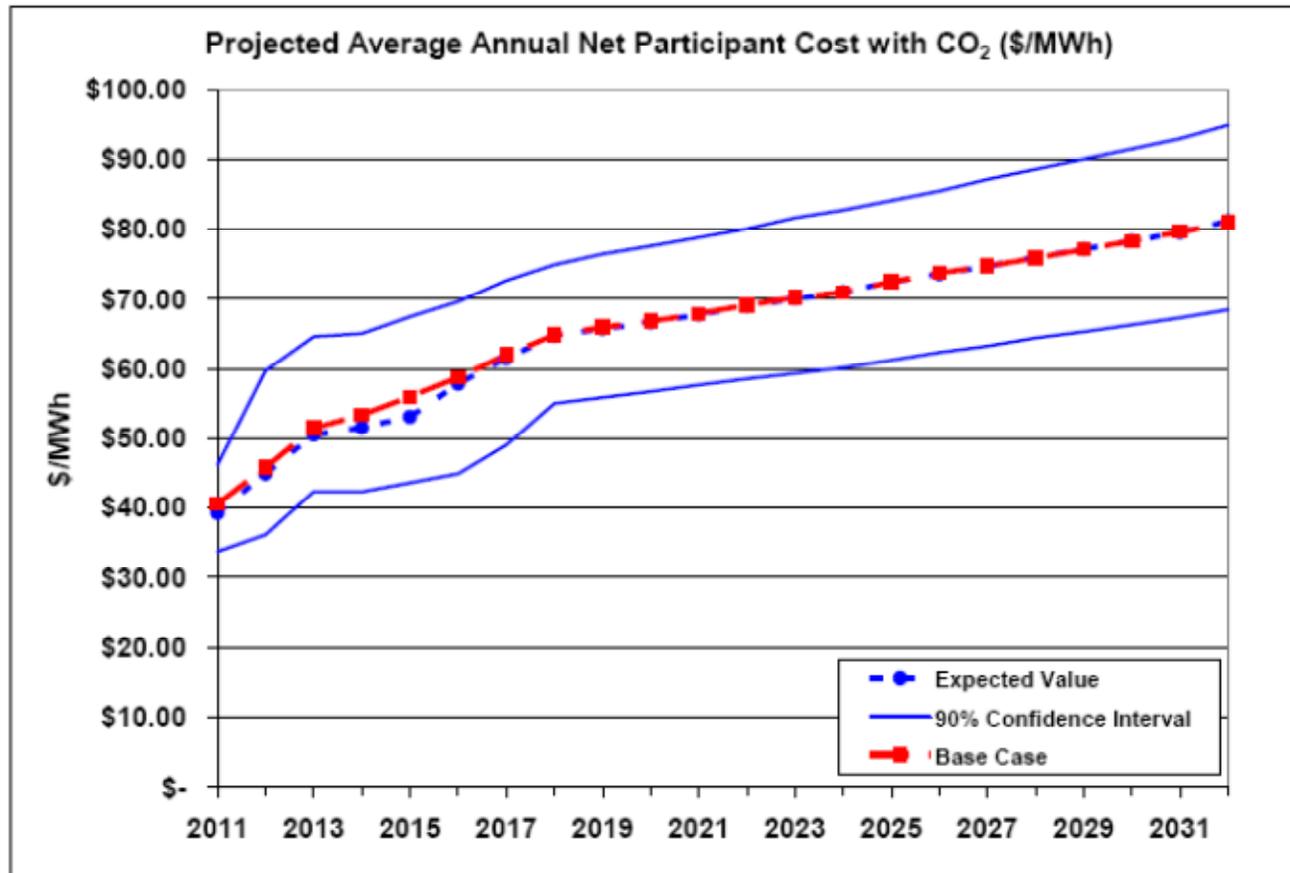


Source: EPA's Clean Air Markets database, July 2012; Project Permits; FutureGen Final Environmental Impact Study, DOE/EIS-0394, November 2007.

PRAIRIE STATE
 Generating Company

Prairie State Billing

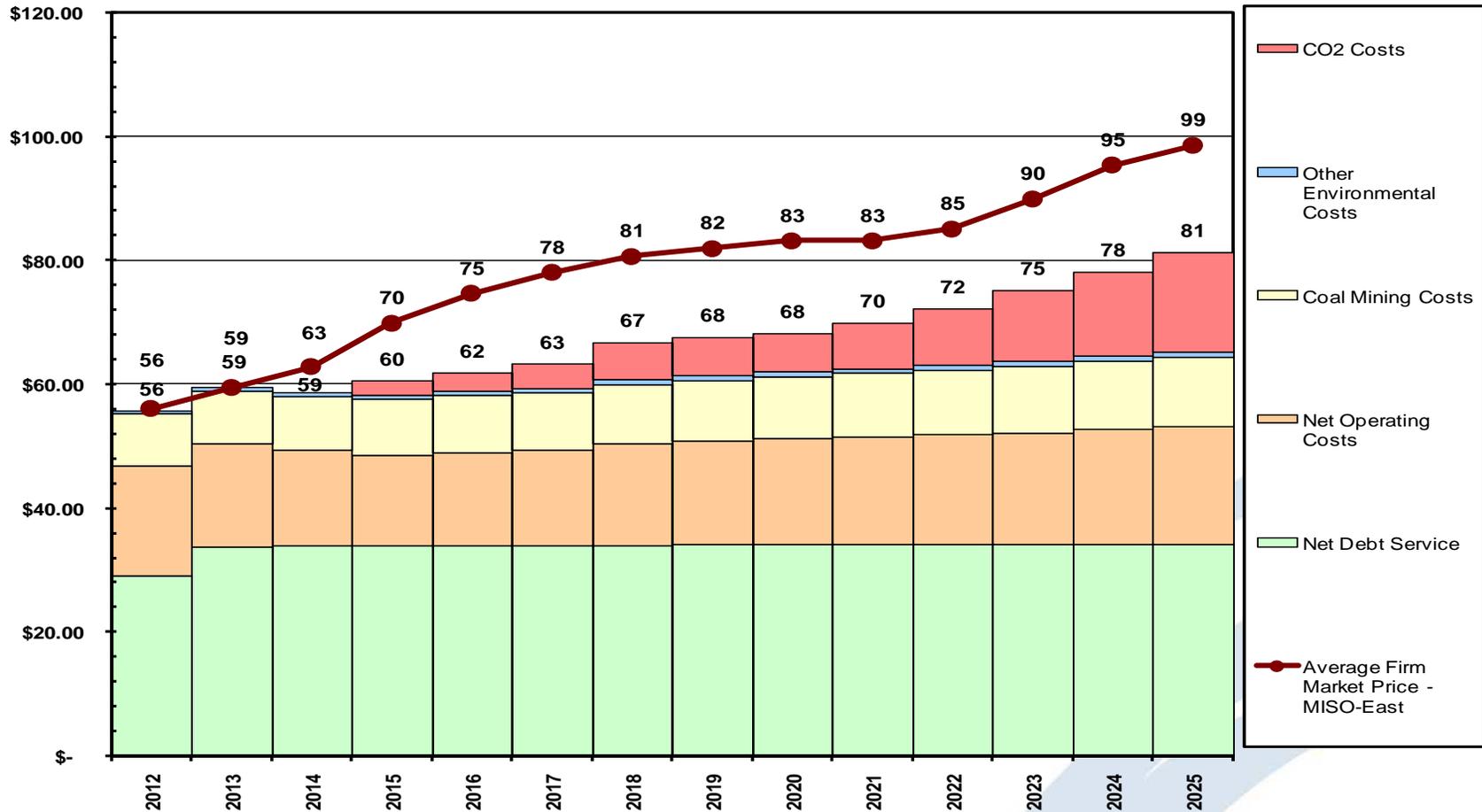
Prairie State Project 2007 Cost Risk Analysis



* Does not include costs for congestion / losses from MISO/PJM border to Participants

Figure 7-15 Net Participant Costs (with CO₂) at 90% Confidence Interval (\$/MWh)

Prairie State Project Cost Comparison - October 2010



Source: RW Beck

* Forecast above assumes CO2 costs are incurred starting in 2015 at \$10.27/ton and grow to \$29.36/ton by 2025.

Prairie State Invoiced Costs to Painesville

- Average cost for 2013, thru October 2013
= \$68.53/ MWh (delivered to PJM/MISO
border, without capacity credit)

Prairie State Rates on Invoice

- AMP invoices the PSEC Project costs as approved by the project Participants or Participants Committee and the Board of Trustees.
- Costs are calculated monthly and invoiced to members in a separate section on their power invoice.
- Costs invoiced to Participants include:
 - Prairie State Costs invoiced to AMP
 - AMP O&M costs (ECC, Legal, Misc)
 - Revenue to cover project debt.
 - Transmission from PSEC to PJM/MISO
 - RTO charges associated with delivery of PSEC power to the PJM/MISO interface.

Power Invoice Resources Detail (PSEC)

- **Prairie State Generating Company
Costs invoiced to AMP**
 - PSGC invoices AMP Monthly
 - Fixed Expenses = 23.26 % of the fixed expenses incurred at Prairie State
 - The Prairie State Fixed expenses and the AMP O&M costs are invoiced to the Participants through the approved “Demand Charge” rate. This rate, as approved, is designed to recover the PSEC and AMP costs over the course of a calendar year.

Power Invoice Resources Detail (PSEC)

- PSGC Costs invoiced to AMP (contd.)
 - PSGC invoices AMP Monthly
 - Variable Expenses = Percentage (%) of all variable charges (primarily fuel related) based on the AMP share of the total energy dispatched from PSEC over course of month.
 - The Prairie State variable expense is invoiced to the participants through the “Energy Charge” rate. The “Energy Charge” is exclusively used to recover the PSEC variable expenses invoiced to AMP.

Power Invoice Resources Detail (PSEC)

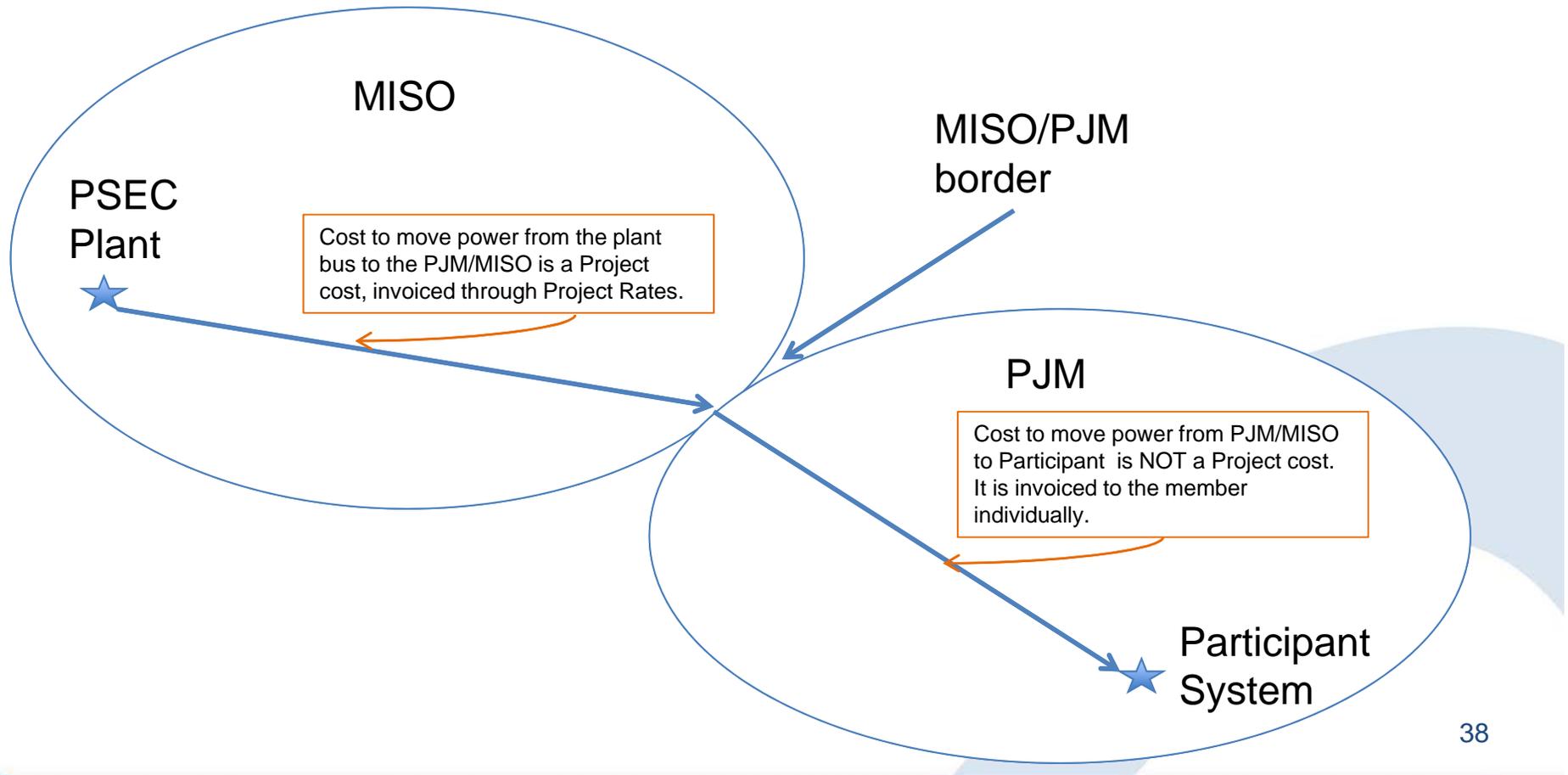
- Revenue for project debt
 - AMP financed the 23.26% ownership of the Prairie State Project.
 - Payments to the bond holders are made every six months. (February 15 and August 15)
 - Per Bond agreements, AMP must collect 110% of debt requirements from the participants.
 - This extra 10% collections is placed into an R&C fund.
 - The money in the R&C fund is available for use by the PSEC project as directed by the Participants or Participants Committee and the AMP Board.
 - As part of the budgeting process, AMP develops monthly schedule for invoicing the debt to the Participants. This schedule complies with all Bond requirements and levelizes the debt collection over the budgeted period.

Power Invoice Resources Detail (PSEC)

- Transmission from PSEC to PJM/MISO
 - Prairie State Power Sales Contract specifies that the “Point of Delivery” for PSEC power is the PJM/MISO border.
 - Transmission and ancillary costs from the plant bus to the PJM/MISO border for PSEC power is included in the PSEC rate.
 - Transmission and ancillary costs from the PJM/MISO border to the participants system is the responsibility of the individual participants and is not included in the PSEC rate.

Power Invoice Resources Detail (PSEC)

- Transmission from PSEC to PJM/MISO (contd.)



Power Invoice Resources Detail (PSEC)

- Transmission from PSEC to PJM/MISO (contd.)
 - Costs to deliver power to the PJM/MISO interface include:
 - MISO Congestion and Losses
 - FTR Charges and Credits
 - Firm Transmission Charges
 - Deviation charges
 - Difference between what is scheduled in DA market and what is actually delivered from Plant to AMP
 - Reactive Revenue Credit

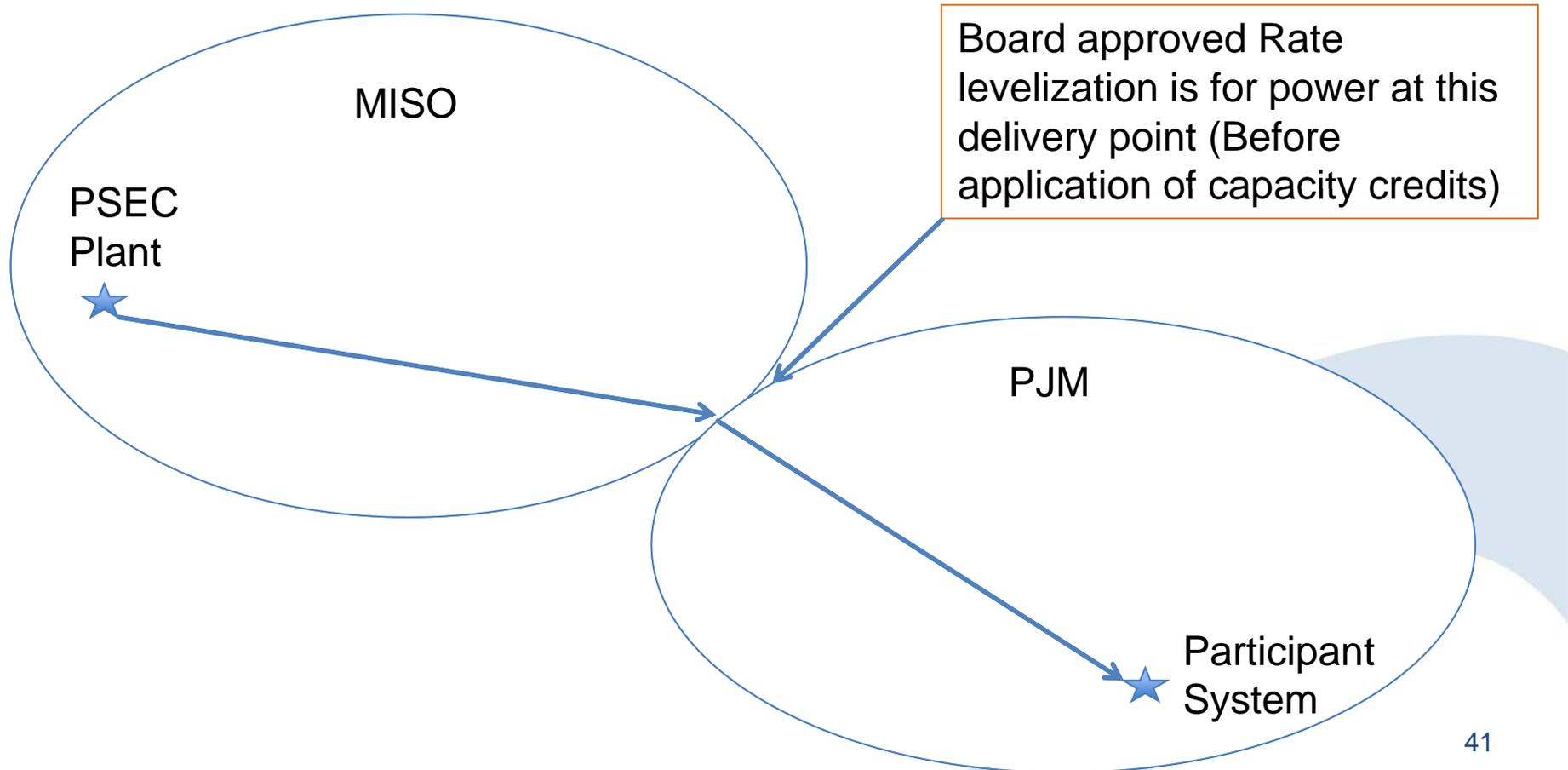
Power Invoice Resources Detail (PSEC)

- **Board Approved Rate Levelization**

- For 2013 and 2014, the AMP Board and Participants or Participants Committee have authorized the levelization of rates for the PSEC participants.
- The rate is levelized to the participants at the PJM/MISO interface, and it is levelized before the distribution of any capacity credits due the participants.
- The funds used to stabilize the rates have been taken from available bond proceeds, R&C Fund, and utilization of the AMP line of credit.
- The effect of this rate levelization is broken out on a separate line on the invoice and described as “Board Approved Rate Levelization.”
- The rates and funds used for levelization are reported to and reviewed by the AMP Board and Participants Committee on an ongoing basis.
- As of September 30, 2013, Prairie State project has utilized a net total of \$1,460,835 from the AMP line of credit. Painesville’s share is about \$39,506.
- The interest rate on the AMP line of credit is a variable rate. The annual interest rate was approximately 1.277% for September 2013 (or .1064% per month).

Power Invoice Resources Detail (PSEC)

- Board Approved Rate Levelization



Power Invoice Resources Detail (PSEC)

- **Capacity Credit & Net Congestion/Losses/FTR**
 - These two items in the Prairie State section of the invoice are calculated in an identical manner as they would for any resource.
 - As stated earlier, all power with a point of delivery other than the municipal load point are subject to congestion and losses.
 - FTR's are Financial Transmission Rights that can be purchased as a hedge against congestion.
 - PJM also requires all members to purchase capacity sufficient to meet their load with a reserve margin of approximately 15%.
 - The way AMP invoices capacity, all members are invoiced for their full capacity amounts, and then credited for each source that has capacity rights associated with it. This is shown as a "Capacity Credit" on the section for each resource.

Power Invoice Resources Detail (PSEC)

- Prairie State Detail - Summary

Prairie State - Sched @ PJMC				
Demand Charge:	\$8.573407	/ kW *	9,952 kW =	\$85,322.55
Energy Charge:	\$0.007909	/ kWh *	6,000,424 kWh =	\$47,457.52
Debt Service	\$22.312364	/ kW	9,952 kW	\$222,052.65
Transmission from PSEC to PJM/MISO	\$0.007373	/ kWh	6,000,424 kWh	\$44,243.82
Board Approved Rate Levelization				\$42,916.68
Capacity Credit:	\$0.700883	/ kW *	-9,952 kW =	-\$6,975.19
Net Congestion, Losses, FTR:	\$0.004164	/ kWh *		\$24,986.97
Subtotal	\$0.076662	/ kWh *	6,000,424 kWh =	\$460,005.01

- Summary

- Demand Charge = PSEC and AMP Fixed costs
- Energy Charge = PSEC variable costs
- Debt service = Revenue required to make the Bond Payments and comply with Debt Covenants.
- Trans from PSEC to PJM/MISO = RTO charges associated with moving power to the PJM/MISO Interface.
- Board Approved Rate Levelization = Levelization of above costs to a rate determined by the AMP Board of Trustees utilizing available funds.

Power Invoice Resources Detail (PSEC)

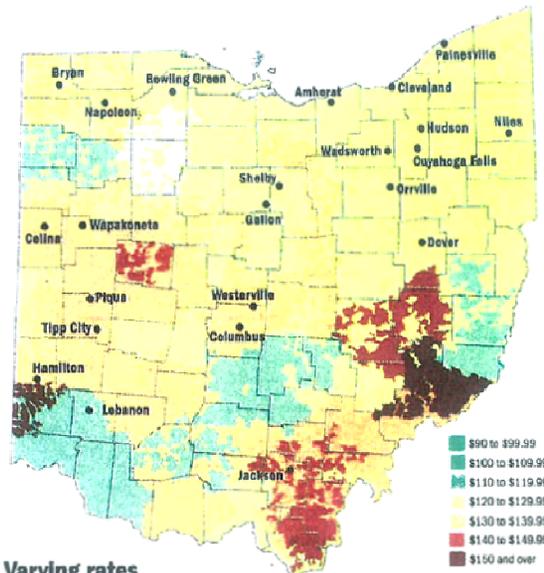
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Levelized charges

- Summary (contd.)

- Capacity Credit = Credit for installed capacity that offsets capacity charges from PJM/MISO
- Net Congestion, Losses, FTR = Costs associated with moving power from the delivery point (PJM/MISO interface) to the Municipal Bus.



Varying rates

The Dispatch has gathered rate information for 52 electricity utilities in the state that serve 98 percent of all residential customers, comparing costs for a "typical" customer who uses 1,000 kilowatt-hours in a month. The January 2013 typical bill is the result of Dispatch research.

Note: City-owned utilities serve territories too small to show as a color on the map, but their locations are shown.

CITY-OWNED UTILITIES	HOUSEHOLDS	AMOUNT OF TYPICAL BILL JAN. 2013
Celina	6,809	\$90.65
Wapakoneta	4,693	\$92.50
Amherst	5,229	\$93.47
Piqua	8,385	\$94.36
Bryan	5,049	\$96.60
Tipp City	5,269	\$97.31
Cuyahoga Falls	22,594	\$97.61
Niles	10,023	\$98.90
Orrville	5,255	\$103.53
Painesville	10,173	\$104.63
Bowling Green	17,682	\$107.41
Shelby	4,909	\$107.68
Westswarth	10,987	\$108.80
Napoleon	9,108	\$108.95
Westerville	14,241	\$111.30
Dover	5,775	\$111.57
Hamilton	26,085	\$111.87
Lebanon	8,033	\$112.33
Hudson	5,619	\$113.16
Gallion	5,803	\$114.65
Jackson	3,376	\$118.63
Cleveland	85,785	\$118.16
Columbus	9,363	\$119.50

INVESTOR-OWNED UTILITIES

UTILITIES	HOUSEHOLDS	AMOUNT OF TYPICAL BILL JAN. 2013
Duke Energy Ohio	431,872	\$119.40
FirstEnergy, Cleveland Electric Illuminating	166,889	\$120.21
FirstEnergy, Toledo Edison	95,484	\$120.79
FirstEnergy, Ohio Edison	333,001	\$123.38
AEP, Ohio Power	606,316	\$129.38
AEP, Columbus Southern Power	665,998	\$132.88
Dayton Power & Light	441,880	\$138.16

RURAL COOPERATIVE UTILITIES

UTILITIES	HOUSEHOLDS	AMOUNT OF TYPICAL BILL JAN. 2013
Paulding-Putnam Electric	9,036	\$116.08
South Central Power	106,243	\$117.78
Holmes-Wayne Electric	13,856	\$120.92
Frontier Power	8,017	\$124.10
Consolidated Electric	14,314	\$125.45
Carroll Electric	10,788	\$126.90
Derle Rural Electric	4,889	\$127.06
Lorain-Madison R.E.C.	14,670	\$127.81
North Central Electric	8,993	\$128.48
North Western Electric	5,616	\$132.00
Licking Rural Electric	23,050	\$132.30
Pioneer Rural Electric	15,604	\$132.35
Midwest Electric	10,303	\$135.00
Fields Electric	8,479	\$135.23
Mid-Ohio Energy	7,110	\$135.91
Adams Rural Electric	7,422	\$136.39
Union Rural Electric	8,083	\$136.39
Logan County Coop Power & Light	4,288	\$140.45
Buckeye Rural Electric	18,027	\$141.81
Guernsey-Muskingum Electric	14,725	\$142.72
Washington Electric	8,213	\$150.00
Butler Rural Electric	10,833	\$153.38
Hancock-Wood Electric	10,832	not disclosed

Sources: Dispatch research, Energy Information Administration

THE COLUMBUS DISPATCH

According to the Dispatch April 2013 Article:

- Painesville – 10th lowest residential bill out of the 52 utilities in the State included in the survey
- About 98% of residential customers in Ohio have higher retail bills than Painesville
- All highlighted municipal electric utilities are Prairie State Participants