

# Selected MMU Market Issues

Members Committee  
Webinar

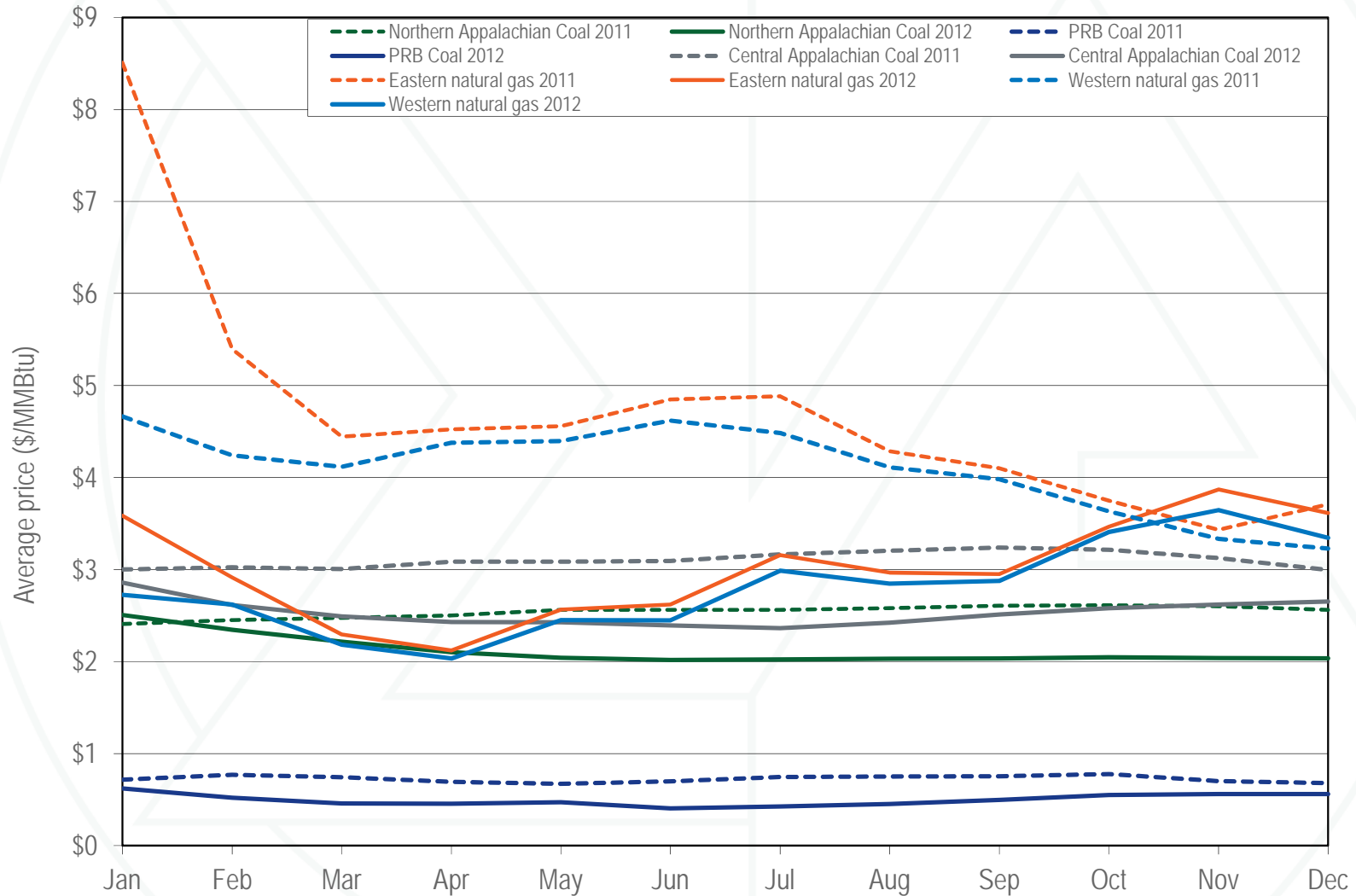
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Joe Bowring



Monitoring Analytics

# Spot average fuel price comparison: 2011 through 2012



# PJM installed capacity (By fuel source): January 1, May 31, June 1, and December 31, 2012

	1-Jan-12		31-May-12		1-Jun-12		31-Dec-12	
	MW	Percent	MW	Percent	MW	Percent	MW	Percent
Coal	75,190.4	42.0%	79,311.0	42.8%	79,664.6	42.9%	75,989.2	41.8%
Gas	49,769.3	27.8%	51,180.1	27.6%	51,949.1	28.0%	52,003.2	28.6%
Hydroelectric	8,047.0	4.5%	8,047.0	4.3%	7,879.8	4.2%	7,879.8	4.3%
Nuclear	32,492.6	18.2%	33,085.0	17.9%	33,149.5	17.8%	33,024.0	18.1%
Oil	11,977.3	6.7%	12,260.4	6.6%	11,532.9	6.2%	11,531.2	6.3%
Solar	15.3	0.0%	16.3	0.0%	47.0	0.0%	47.0	0.0%
Solid waste	705.1	0.4%	689.1	0.4%	736.1	0.4%	736.1	0.4%
Wind	657.1	0.4%	660.1	0.4%	779.6	0.4%	779.6	0.4%
Total	178,854.1	100.0%	185,249.0	100.0%	185,738.6	100.0%	181,990.1	100.0%



# PJM generation (By fuel source (GWh)): 2011 and 2012

	2011		2012		Change in Output
	GWh	Percent	GWh	Percent	
Coal	360,306.2	46.9%	332,762.0	42.1%	(7.6%)
Standard Coal	348,100.5	45.3%	323,043.5	40.9%	(7.0%)
Waste Coal	12,205.7	1.6%	9,718.5	1.2%	(0.7%)
Nuclear	262,968.3	34.2%	273,372.2	34.6%	4.0%
Gas	109,909.7	14.3%	148,229.9	18.8%	34.9%
Natural Gas	108,030.2	14.1%	146,007.0	18.5%	35.2%
Landfill Gas	1,879.0	0.2%	2,222.3	0.3%	18.3%
Biomass Gas	0.5	0.0%	0.5	0.0%	(3.5%)
Wind	11,561.1	1.5%	12,633.6	1.6%	9.3%
Hydroelectric	15,277.9	2.0%	12,649.7	1.6%	(17.2%)
Waste	5,559.6	0.7%	5,177.6	0.7%	(6.9%)
Solid Waste	4,442.9	0.6%	4,200.3	0.5%	(5.5%)
Miscellaneous	1,116.6	0.1%	977.3	0.1%	(12.5%)
Oil	2,268.8	0.3%	5,030.9	0.6%	121.7%
Heavy Oil	1,882.7	0.2%	4,796.9	0.6%	154.8%
Light Oil	356.6	0.0%	218.9	0.0%	(38.6%)
Diesel	16.8	0.0%	9.9	0.0%	(40.9%)
Kerosene	12.8	0.0%	5.1	0.0%	(59.7%)
Jet Oil	0.1	0.0%	0.0	0.0%	(31.7%)
Solar	55.7	0.0%	233.5	0.0%	319.1%
Battery	0.2	0.0%	0.3	0.0%	38.5%
Total	767,907.6	100.0%	790,089.8	100.0%	2.9%



# PJM generation (By fuel source (GWh)) excluding ATSI (Jan – May) and DEOK zones: 2011 and 2012

	2011		2012		Change in Output
	GWh	Percent	GWh	Percent	
Coal	360,306.2	46.9%	290,845.1	39.7%	(19.3%)
Standard Coal	348,100.5	45.3%	281,126.7	38.4%	(18.6%)
Waste Coal	12,205.7	1.6%	9,718.5	1.3%	(0.7%)
Nuclear	262,968.3	34.2%	260,508.9	35.6%	(0.9%)
Gas	109,870.2	14.3%	144,809.5	19.8%	31.8%
Natural Gas	107,991.7	14.1%	142,730.3	19.5%	32.2%
Landfill Gas	1,878.0	0.2%	2,078.7	0.3%	10.7%
Biomass Gas	0.5	0.0%	0.5	0.0%	3.1%
Hydroelectric	15,277.9	2.0%	12,649.7	1.7%	(17.2%)
Wind	11,561.1	1.5%	12,633.6	1.7%	9.3%
Waste	5,559.6	0.7%	5,177.6	0.7%	(6.9%)
Solid Waste	4,442.9	0.6%	4,200.3	0.6%	(5.5%)
Miscellaneous	1,116.6	0.1%	977.3	0.1%	(12.5%)
Oil	2,268.8	0.3%	5,025.6	0.7%	121.5%
Heavy Oil	1,882.7	0.2%	4,796.9	0.7%	154.8%
Light Oil	356.6	0.0%	215.3	0.0%	(39.6%)
Diesel	16.8	0.0%	8.2	0.0%	(50.9%)
Kerosene	12.8	0.0%	5.1	0.0%	(59.7%)
Jet Oil	0.1	0.0%	0.0	0.0%	(31.7%)
Solar	55.7	0.0%	233.5	0.0%	319.1%
Battery	0.2	0.0%	0.3	0.0%	38.5%
Total	767,868.1	100.0%	731,883.9	100.0%	(4.7%)



# Negative Target Allocation Counterflow FTRs

If the Total Transmission Congestion Charge is a positive value that is less than the total positive FTR Target Allocation for the hour, then the Transmission Congestion Credit for each market participant is equal to that market participant's FTR Target Allocation multiplied by the Total Transmission Congestion Charge and divided by the Total PJM positive FTR Target Allocations if the market participant's FTR Target Allocation is a positive value, and is **equal to 100% of the market participant's FTR Target Allocation if the market participant's FTR Target Allocation is a negative value**. Each market participant's hourly Congestion Credit Deficiency is calculated as its FTR Target Allocation minus its hourly Transmission Congestion Credit.

-Manual 28 Section 8.4.3; p51



# Negative Target Allocation Counterflow Example

		Current Method					
		FTR	FTR	CF FTR	CF FTR	CF FTR	CF FTR
Payout Ratio = 80%	Transaction	Even	Loss	Gain	Loss	Even	
Price paid for FTR	Auction	\$ 100	\$ 100	\$ (100)	\$ (100)	\$ (100)	
CLMP differences	Target Allocation	\$ 100	\$ (20)	\$ 20	\$ (20)	\$ (100)	
TA * Payout Ratio	Underfunded TA	\$ 80	\$ (20)	\$ 16	\$ (20)	\$ (100)	
Profit	Total	\$ (20)	\$(120)	\$ 116	\$ 80	\$ -	

		Adjusted Counterflows					
		FTR	FTR	CF FTR	CF FTR	CF FTR	CF FTR
	Transaction	Even	Loss	Gain	Loss	Even	
Price paid for FTR	Auction	\$ 100	\$ 100	\$ (100)	\$ (100)	\$ (100)	
CLMP differences	Target Allocation	\$ 100	\$ (20)	\$ 20	\$ (20)	\$ (100)	
TA * Payout Ratio	Underfunded TA	\$ 80	\$ (20)	\$ 16	\$ (24)	\$ (120)	
Profit	Total	\$ (20)	\$(120)	\$ 116	\$ 76	\$ (20)	



# Counter Flow Adjustment Example

Congestion = \$40	Current Reported	Current Paid	Proposed Paid
Positive Target Allocations	\$100	\$90	\$93
Negative prevailing flow TA	(\$10)	(\$10)	(\$10)
Negative counter flow TA	(\$40)	(\$40)	(\$43)
Total TA	\$50	\$40	\$40
Payout Ratio	80.00%	90.00%	92.85%

Reported = Congestion Collected / Total TA (Initial) = \$40/\$50

Positive TA Current = (Congestion Collected + All Negative TA) / Positive TAs =  
 $(\$40 + \$10 + \$40) / \$100$

Adjusted Payout = (Congestion Collected + Negative Prevailing TA + (Negative Counter TA \* Adjustment)) / Positive Target Allocation =  $((40 + 10 + 43) / \$100)$





# Counter Flow Adjustment Impact: October 2012

	Available Funding
Collected Congestion	\$ 24,879,206
Collected Congestion + Negative TA Current	\$ 104,333,962
Collected Congestion + Negative TA Adjusted	\$ 114,008,068

	Initial TA	Current Method	Adjusted Method
Positive Target Allocations	\$ 137,698,279	\$ 104,333,962	\$ 114,008,061
Negative TA from prevailing flow	\$ (23,224,469)	\$ (23,224,469)	\$ (23,224,469)
Negative TA from counter flow	\$ (56,230,287)	\$ (56,230,287)	\$ (65,904,393)
Total	\$ 58,243,523	\$ 24,879,206	\$ 24,879,199
Positive TA payout ratio	-	75.77%	82.80%



# Flowgate Contribution to Underfunding: June 2012

Flowgate	Day-Ahead Congestion	Balancing Congestion	Total Congestion	Target Allocation	Congestion FTR Funding	M2M Payment	Flowgate FTR Funding
Beaver Channel - Albany	\$3,719,781.25	(\$2,304,147.35)	\$1,415,633.90	\$3,942,044.43	(\$2,526,410.53)	\$0.00	(\$2,526,410.53)
Oak Grove - Galesburg	\$1,441,659.69	(\$1,559,635.66)	(\$117,975.97)	\$1,545,784.70	(\$1,663,760.66)	(\$576,853.01)	(\$2,240,613.67)
Cumberland - Bush	\$1,794,725.91	(\$1,622,548.72)	\$172,177.19	\$1,015,614.71	(\$843,437.52)	\$91,383.31	(\$752,054.21)
Monticello - East Winamac	\$5,154,118.59	(\$1,862,598.73)	\$3,291,519.86	\$4,061,918.61	(\$770,398.75)	(\$1,231,707.92)	(\$2,002,106.67)
Michigan City - Laporte	\$609,370.43	(\$478,203.01)	\$131,167.42	\$507,691.36	(\$376,523.94)	(\$498,143.35)	(\$874,667.29)
Bush - Lafayette	\$0.00	(\$358,139.84)	(\$358,139.84)	\$0.00	(\$358,139.84)	\$0.00	(\$358,139.84)
Kenosha - Lakeview	\$337,744.15	(\$518,728.43)	(\$180,984.28)	\$58,797.20	(\$239,781.49)	(\$144,355.33)	(\$384,136.82)
Breed - Wheatland	\$631,575.38	(\$122,680.27)	\$508,895.11	\$651,233.83	(\$142,338.72)	(\$149,305.42)	(\$291,644.14)
Palisades - Roosevelt	\$611,314.41	(\$145,055.23)	\$466,259.17	\$576,082.67	(\$109,823.50)	\$104,850.57	(\$4,972.93)
W Lafayette - Cumberland	\$0.00	(\$36,615.24)	(\$36,615.24)	\$0.00	(\$36,615.24)	\$74,682.15	\$38,066.91
Burr Oak	\$0.00	(\$34,071.16)	(\$34,071.16)	\$0.00	(\$34,071.16)	(\$153,168.15)	(\$187,239.31)
Batesville - Hubble	\$0.00	(\$29,443.51)	(\$29,443.51)	\$0.00	(\$29,443.51)	(\$72,143.29)	(\$101,586.80)
Holland - Neoga	\$0.00	(\$26,658.94)	(\$26,658.94)	\$0.00	(\$26,658.94)	\$90,679.49	\$64,020.55
Rising	\$0.00	(\$23,462.50)	(\$23,462.50)	\$0.00	(\$23,462.50)	(\$37,431.73)	(\$60,894.23)
Rantoul - Rantoul Jct	\$8,807.77	(\$5,018.68)	\$3,789.10	\$12,839.34	(\$9,050.24)	(\$16,698.44)	(\$25,748.68)
Lanesville	\$0.00	(\$2,766.80)	(\$2,766.80)	\$0.00	(\$2,766.80)	\$67.88	(\$2,698.92)
Bunsonville - Eugene	\$51,114.26	\$0.00	\$51,114.26	\$52,677.09	(\$1,562.83)	\$0.00	(\$1,562.83)
Cayuga - Cayuga	\$0.00	(\$857.02)	(\$857.02)	\$0.00	(\$857.02)	(\$7,662.60)	(\$8,519.62)
Lakeview - Zion	\$0.00	(\$688.94)	(\$688.94)	\$0.00	(\$688.94)	(\$1,638.37)	(\$2,327.31)
Baldwin-Mt Vernon	\$0.00	(\$649.92)	(\$649.92)	\$0.00	(\$649.92)	\$0.00	(\$649.92)
Crete - St Johns Tap	\$0.00	(\$385.57)	(\$385.57)	\$0.00	(\$385.57)	\$0.00	(\$385.57)
Prairie State - W Mt. Vernon	\$36,559.94	(\$14,505.95)	\$22,053.98	\$20,741.12	\$1,312.87	\$25,681.73	\$26,994.60
Benton Harbor - Palisades	\$27,453.81	\$1,250.91	\$28,704.72	\$16,321.84	\$12,382.89	\$0.00	\$12,382.89
State Line - Wolf Lake	\$26,429.34	\$0.00	\$26,429.34	\$11,462.87	\$14,966.47	\$0.00	\$14,966.47
Marktown - Inland Steel	\$0.00	\$16,503.57	\$16,503.57	\$0.00	\$16,503.57	\$105,196.79	\$121,700.36
Sheffield - Marktown	\$25,469.82	(\$1,643.68)	\$23,826.13	\$5,099.32	\$18,726.81	(\$11,943.68)	\$6,783.13
Miami Fort - Hebron	\$297,611.57	\$28,534.46	\$326,146.03	\$246,715.46	\$79,430.58	(\$11,044.73)	\$68,385.85
State Line - Roxana	\$232,056.09	\$0.00	\$232,056.09	\$93,027.97	\$139,028.12	\$0.00	\$139,028.12
Roxana - Praxair	\$408,035.15	\$0.00	\$408,035.15	\$85,218.09	\$322,817.05	\$0.00	\$322,817.05



**Monitoring Analytics, LLC**

**2621 Van Buren Avenue**

**Suite 160**

**Eagleville, PA**

**19403**

**(610) 271-8050**

**MA@monitoringanalytics.com**

**www.MonitoringAnalytics.com**

