Market Monitor Report

MC Webinar

December 2, 2019

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Monitoring Analytics

Selected results of State of the Market Report: January through September 2019

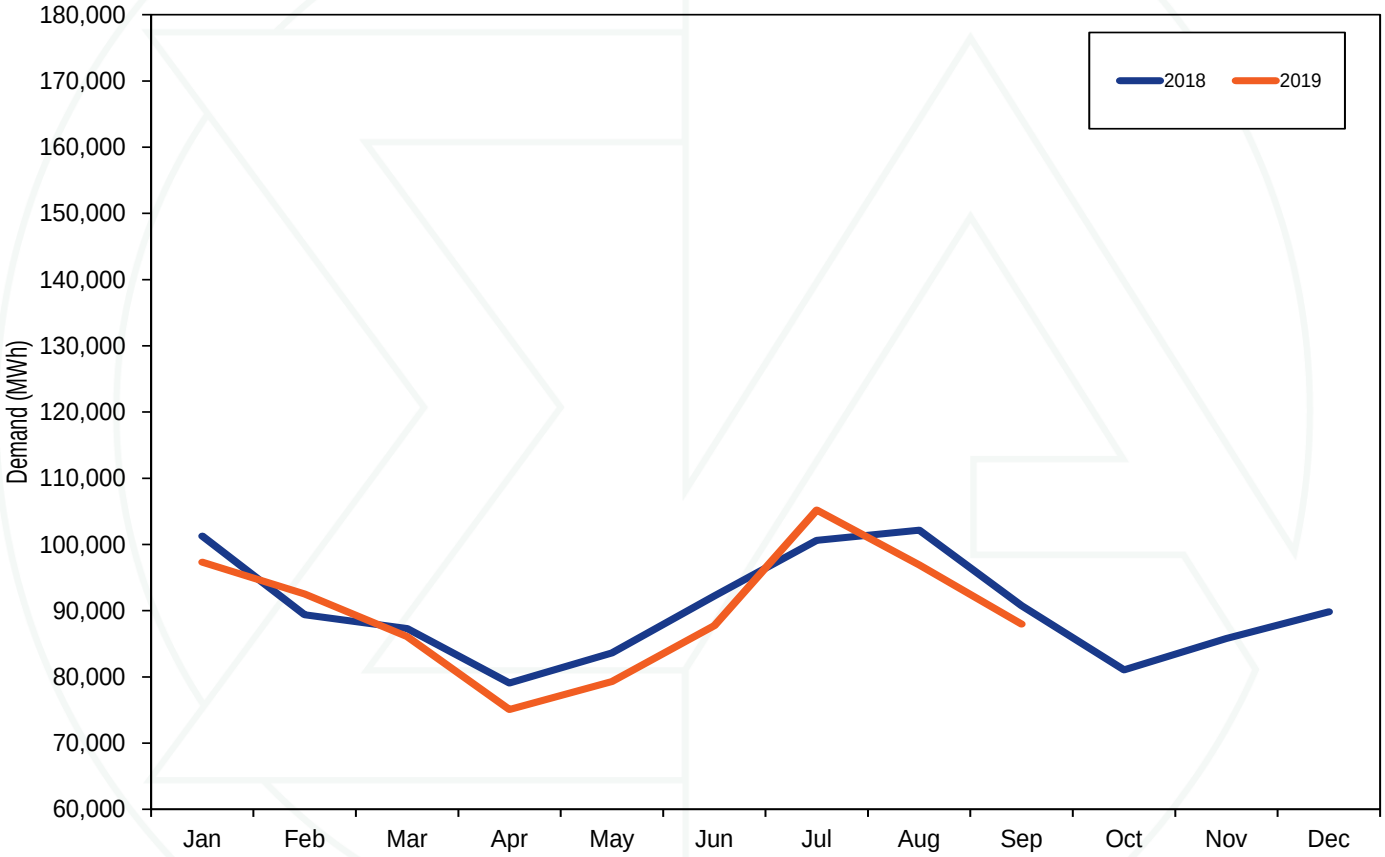
Total price per MWh by category

Category	Jan-Sep 2018 $/MWh	Jan-Sep 2018 ($ Millions)	Jan-Sep 2018 Percent of Total	Jan-Sep 2019 $/MWh	Jan-Sep 2019 ($ Millions)	Jan-Sep 2019 Percent of Total	Percent Change
Load Weighted Energy	$39.43	$23,742	62.8%	$27.60	$16,243	54.2%	(30.0%)
Capacity	$12.44	$7,492	19.8%	$11.79	$6,937	23.1%	(5.3%)
Capacity	$12.40	$7,464	19.7%	$11.77	$6,925	23.1%	(5.1%)
Capacity (FRR)	$0.00	$0	0.0%	$0.00	$0	0.0%	0.0%
Capacity (RMR)	$0.05	$28	0.1%	$0.02	$12	0.0%	(53.9%)
Transmission	$9.29	$5,590	14.8%	$10.19	$5,999	20.0%	9.8%
Transmission Service Charges	$8.62	$5,189	13.7%	$9.55	$5,622	18.8%	10.8%
Transmission Enhancement Cost Recovery	$0.57	$345	0.9%	$0.55	$325	1.1%	(3.8%)
Transmission Owner (Schedule 1A)	$0.09	$56	0.1%	$0.09	$52	0.2%	(4.8%)
Transmission Seams Elimination Cost Assignment (SECA)	$0.00	$0	0.0%	$0.00	$0	0.0%	0.0%
Transmission Facility Charges	$0.00	$0	0.0%	$0.00	$0	0.0%	0.0%
Ancillary	$0.84	$506	1.3%	$0.71	$417	1.4%	(15.7%)
Reactive	$0.42	$250	0.7%	$0.44	$259	0.9%	5.7%
Regulation	$0.20	$121	0.3%	$0.11	$64	0.2%	(45.8%)
Black Start	$0.08	$49	0.1%	$0.08	$48	0.2%	0.7%
Synchronized Reserves	$0.06	$37	0.1%	$0.04	$25	0.1%	(30.6%)
Non-Synchronized Reserves	$0.02	$13	0.0%	$0.01	$8	0.0%	(34.7%)
Day Ahead Scheduling Reserve (DASR)	$0.06	$36	0.1%	$0.02	$13	0.0%	(64.3%)
Administration	$0.51	$308	0.8%	$0.52	$307	1.0%	1.8%
PJM Administrative Fees	$0.48	$289	0.8%	$0.49	$286	1.0%	1.4%
NERC/RFC	$0.03	$18	0.0%	$0.03	$19	0.1%	7.0%
RTO Startup and Expansion	$0.00	$2	0.0%	$0.00	$2	0.0%	3.4%
Energy Uplift (Operating Reserves)	$0.27	$164	0.4%	$0.12	$70	0.2%	(56.4%)
Demand Response	$0.01	$4	0.0%	$0.00	$1	0.0%	(63.2%)
Load Response	$0.01	$4	0.0%	$0.00	$1	0.0%	(63.2%)
Emergency Load Response	$0.00	$0	0.0%	$0.00	$0	0.0%	0.0%
Emergency Energy	$0.00	$0	0.0%	$0.00	$0	0.0%	0.0%
Total Price	$62.80	$37,808	100.0%	$50.93	$29,974	100.0%	(18.9%)
Total Load (GWh)	602,071			588,506			(2.3%)
Total Billing ($ Billions)	$37.81			$29.97			(20.7%)

Real-time Load

	PJM Real-Time Demand (MWh)				Year-to-Year Change			
	Load		Load Plus Exports		Load		Load Plus Exports	
Jan-Sep	Load	Standard Deviation	Demand	Standard Deviation	Load	Standard Deviation	Demand	Standard Deviation
2001	31,060	6,156	32,900	5,861	NA	NA	NA	NA
2002	35,715	8,688	37,367	8,878	15.0%	41.1%	13.6%	51.5%
2003	37,996	7,187	39,965	7,120	6.4%	(17.3%)	7.0%	(19.8%)
2004	45,294	10,512	49,176	11,556	19.2%	46.3%	23.0%	62.3%
2005	78,235	17,541	85,295	17,794	72.7%	66.9%	73.4%	54.0%
2006	80,717	15,568	87,326	16,147	3.2%	(11.2%)	2.4%	(9.3%)
2007	83,114	15,386	89,390	16,008	3.0%	(1.2%)	2.4%	(0.9%)
2008	80,611	14,389	87,788	14,893	(3.0%)	(6.5%)	(1.8%)	(7.0%)
2009	76,954	13,879	82,118	14,360	(4.5%)	(3.5%)	(6.5%)	(3.6%)
2010	81,068	16,209	86,994	16,687	5.3%	16.8%	5.9%	16.2%
2011	83,762	17,604	89,628	17,799	3.3%	8.6%	3.0%	6.7%
2012	88,687	17,431	93,763	17,329	5.9%	(1.0%)	4.6%	(2.6%)
2013	89,123	16,384	93,647	16,254	0.5%	(6.0%)	(0.1%)	(6.2%)
2014	90,567	16,662	96,015	16,518	1.6%	1.7%	2.5%	1.6%
2015	91,857	17,211	96,102	17,300	1.4%	3.3%	0.1%	4.7%
2016	90,599	18,183	95,340	18,571	(1.4%)	5.6%	(0.8%)	7.3%
2017	87,243	16,008	91,954	15,794	(3.7%)	(12.0%)	(3.6%)	(15.0%)
2018	91,905	17,064	95,795	17,245	5.3%	6.6%	4.2%	9.2%
2019	89,834	16,794	94,918	16,924	(2.3%)	(1.6%)	(0.9%)	(1.9%)

Real-time monthly average hourly load



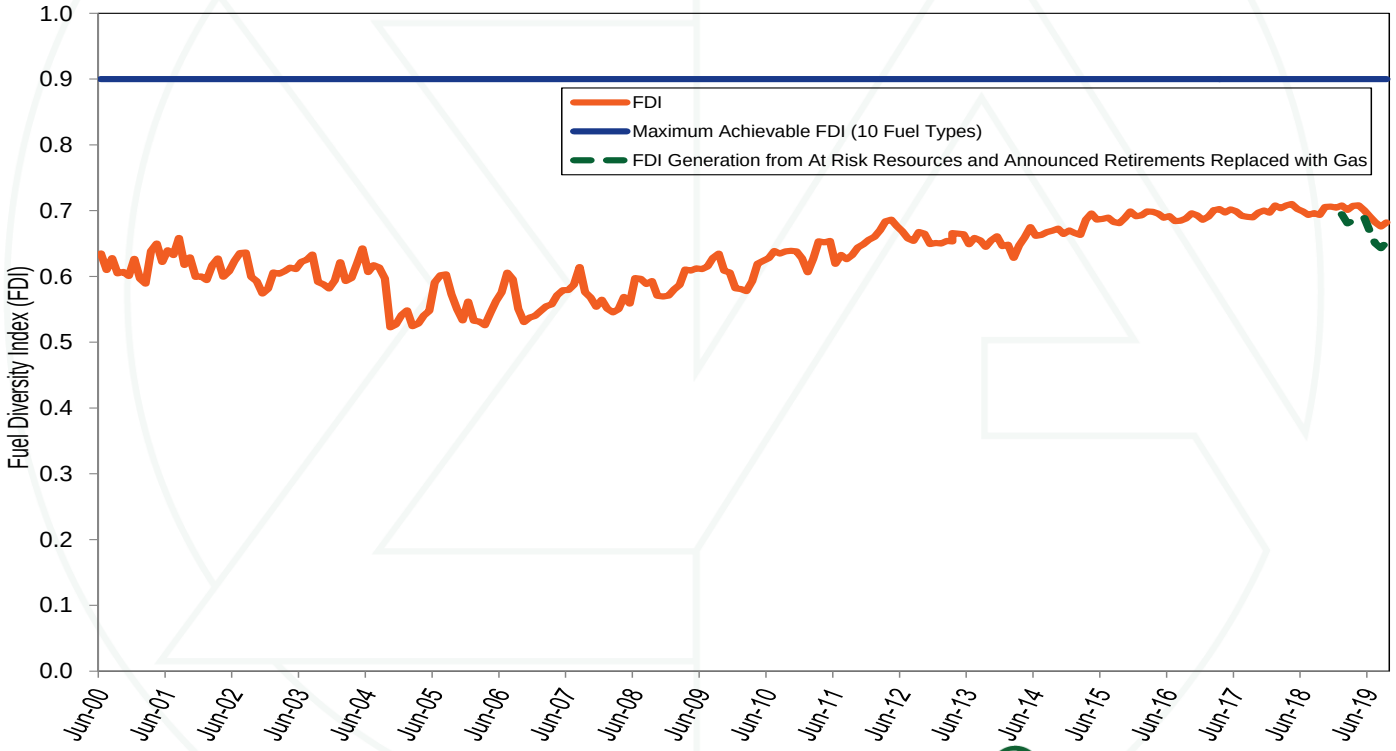
Generation by fuel source

	2018 (Jan - Sep)		2019 (Jan - Sep)		Change in
	GWh	Percent	GWh	Percent	Output
Coal	185,756.1	29.2%	155,308.3	24.5%	(16.4%)
Bituminous	155,985.6	24.5%	132,915.7	21.0%	(14.8%)
Sub Bituminous	23,582.9	3.7%	17,661.9	2.8%	(25.1%)
Other Coal	6,187.5	1.0%	4,730.8	0.7%	(23.5%)
Nuclear	214,603.2	33.8%	210,542.6	33.2%	(1.9%)
Gas	196,583.1	30.9%	229,892.5	36.2%	16.9%
Natural Gas	194,845.4	30.7%	228,282.7	36.0%	17.2%
Landfill Gas	1,724.1	0.3%	1,606.4	0.3%	(6.8%)
Other Gas	13.6	0.0%	3.5	0.0%	(74.6%)
Hydroelectric	14,190.8	2.2%	13,415.7	2.1%	(5.5%)
Pumped Storage	4,497.7	0.7%	3,785.4	0.6%	(15.8%)
Run of River	8,196.3	1.3%	8,528.3	1.3%	4.1%
Other Hydro	1,496.9	0.2%	1,102.0	0.2%	(26.4%)
Wind	15,120.1	2.4%	16,973.8	2.7%	12.3%
Waste	3,356.8	0.5%	3,253.2	0.5%	(3.1%)
Solid Waste	3,155.7	0.5%	3,180.2	0.5%	0.8%
Miscellaneous	201.1	0.0%	73.0	0.0%	(63.7%)
Oil	3,066.6	0.5%	1,551.8	0.2%	(49.4%)
Heavy Oil	435.1	0.1%	101.6	0.0%	(76.6%)
Light Oil	899.9	0.1%	226.3	0.0%	(74.9%)
Diesel	358.8	0.1%	68.1	0.0%	(81.0%)
Gasoline	0.0	0.0%	0.0	0.0%	NA
Kerosene	58.8	0.0%	10.0	0.0%	(83.0%)
Jet Oil	8.0	0.0%	0.0	0.0%	(100.0%)
Other Oil	1,306.0	0.2%	1,145.8	0.2%	(12.3%)
Solar, Net Energy Metering	1,709.5	0.3%	2,260.3	0.4%	32.2%
Battery	10.6	0.0%	15.1	0.0%	42.7%
Biofuel	1,306.6	0.2%	1,017.9	0.2%	(22.1%)
Total	635,703.2	100.0%	634,231.2	100.0%	(0.2%)

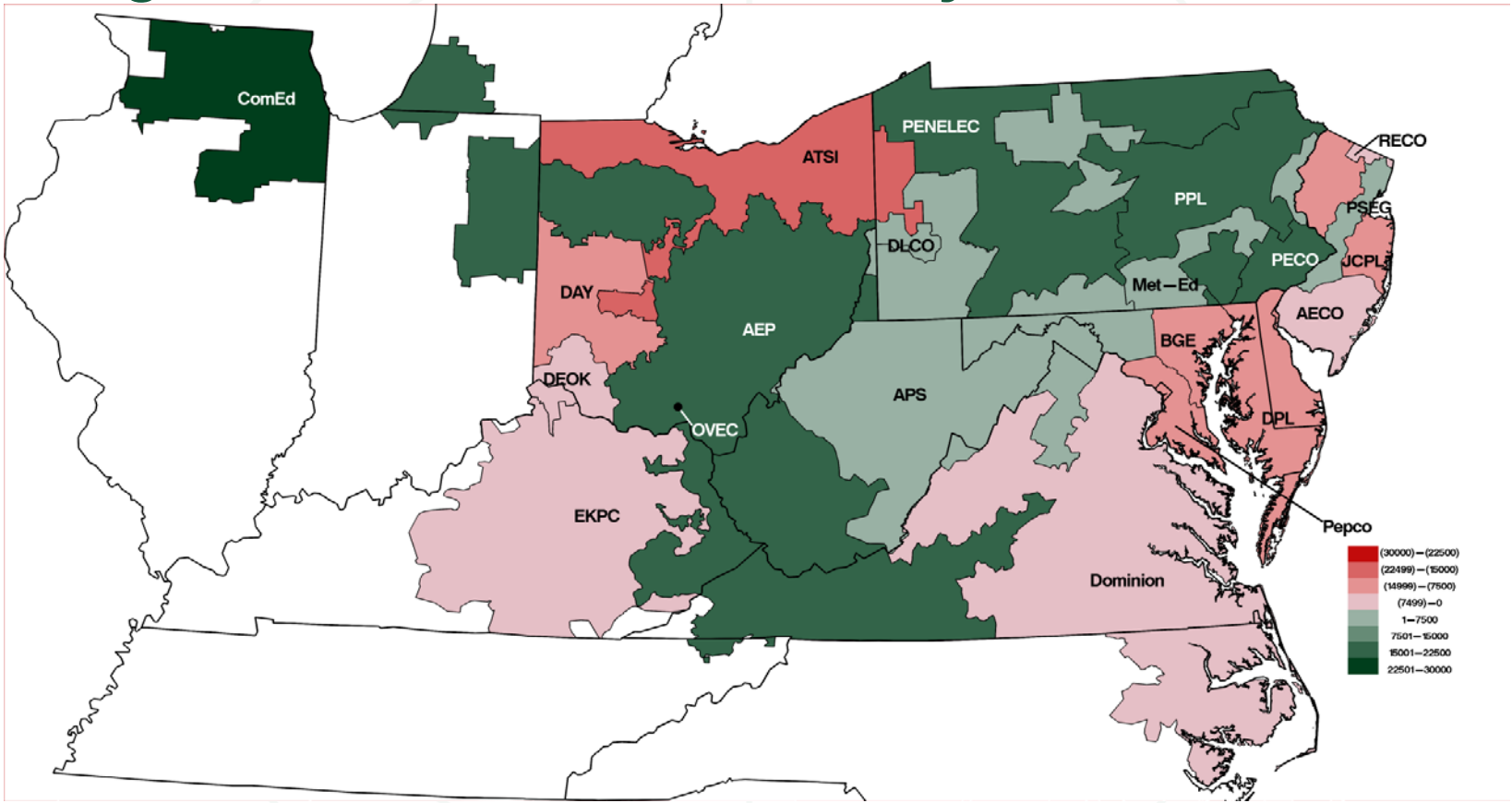
Capacity factor by unit type

Unit Type	2018 (Jan-Sep) Generation (GWh)	2018 (Jan-Sep) Capacity Factor	2019 (Jan-Sep) Generation (GWh)	2019 (Jan-Sep) Capacity Factor	Change in 2019 from 2018
Battery	10.6	0.6%	15.1	0.7%	0.1%
Combined Cycle	175,780.0	62.2%	211,909.2	66.0%	3.8%
Single Fuel	144,728.4	65.7%	180,345.5	71.7%	6.0%
Dual Fuel	31,051.6	49.8%	31,563.7	45.4%	(4.4%)
Combustion Turbine	15,077.5	8.0%	12,153.3	6.4%	(1.6%)
Single Fuel	9,916.5	7.1%	8,255.5	5.9%	(1.2%)
Dual Fuel	5,161.0	10.3%	3,897.8	7.6%	(2.7%)
Diesel	264.1	11.4%	200.3	7.8%	(3.6%)
Single Fuel	255.1	12.5%	196.3	8.5%	(3.9%)
Dual Fuel	9.0	3.3%	4.0	1.5%	(1.8%)
Diesel (Landfill gas)	1,332.4	51.6%	1,240.4	48.8%	(2.8%)
Fuel Cell	168.8	84.8%	163.1	80.8%	(4.0%)
Nuclear	214,603.2	94.0%	210,542.6	93.8%	(0.2%)
Pumped Storage Hydro	5,723.9	17.3%	4,597.2	13.9%	(3.4%)
Run of River Hydro	8,466.9	43.5%	8,818.5	44.7%	1.2%
Solar	1,706.4	19.6%	2,218.6	21.0%	1.4%
Steam	197,444.7	41.6%	165,357.5	37.3%	(4.3%)
Biomass	4,916.7	63.0%	4,511.4	61.4%	(1.6%)
Coal	186,816.7	47.5%	155,939.5	42.4%	(5.1%)
Single Fuel	182,058.5	49.0%	153,068.2	44.3%	(4.7%)
Dual Fuel	4,758.2	21.7%	2,871.3	13.1%	(8.6%)
Natural Gas	5,346.5	38.7%	4,807.9	42.2%	3.5%
Single Fuel	552.7	45.2%	354.1	50.8%	5.6%
Dual Fuel	4,793.9	25.0%	4,453.8	23.4%	(1.6%)
Oil	364.8	1.6%	98.6	0.7%	(0.9%)
Wind	15,120.1	27.0%	16,973.8	28.1%	1.1%
Total	635,701.4	48.9%	634,192.3	48.3%	(0.6%)

FDI for energy



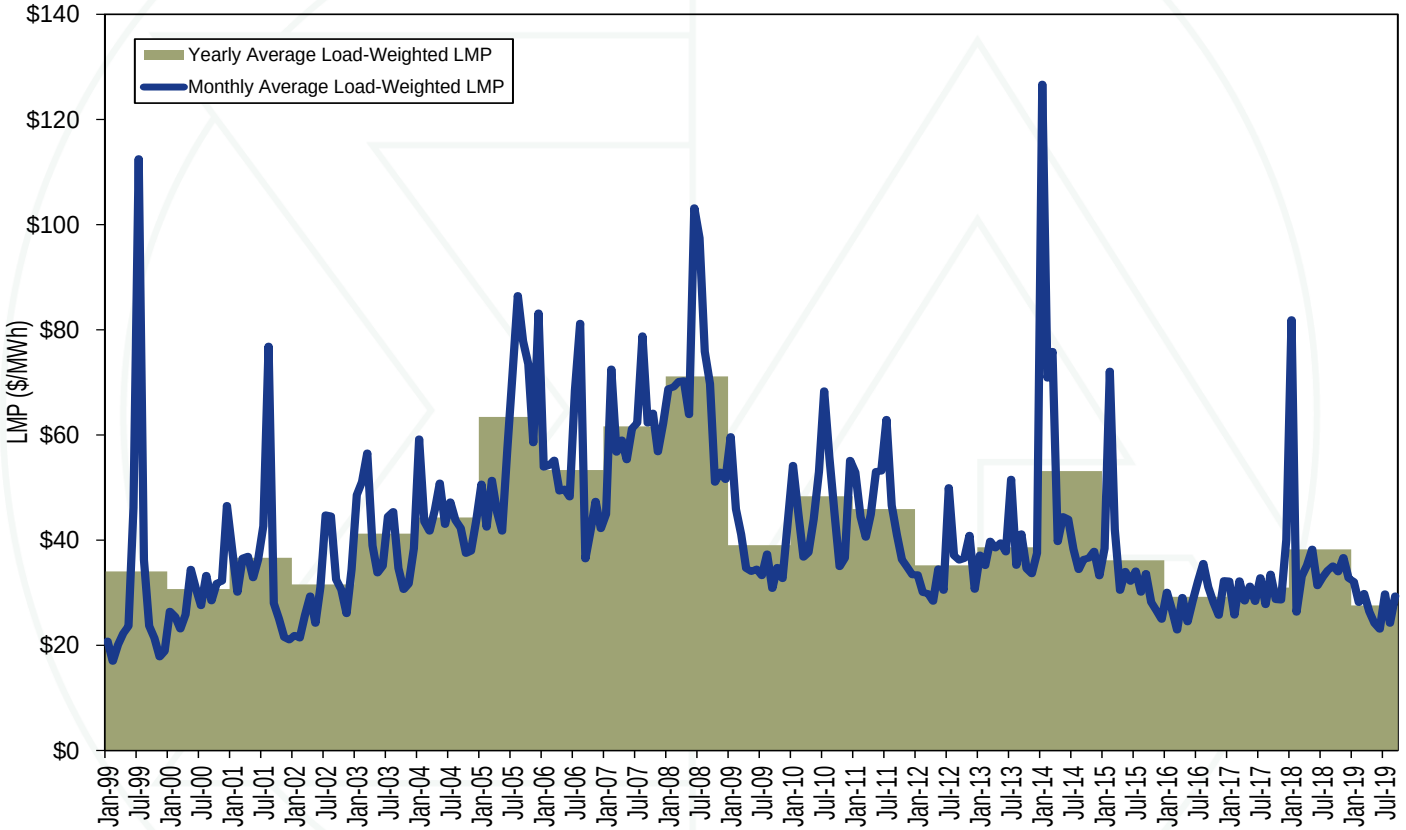
RT generation, less RT load, by zone



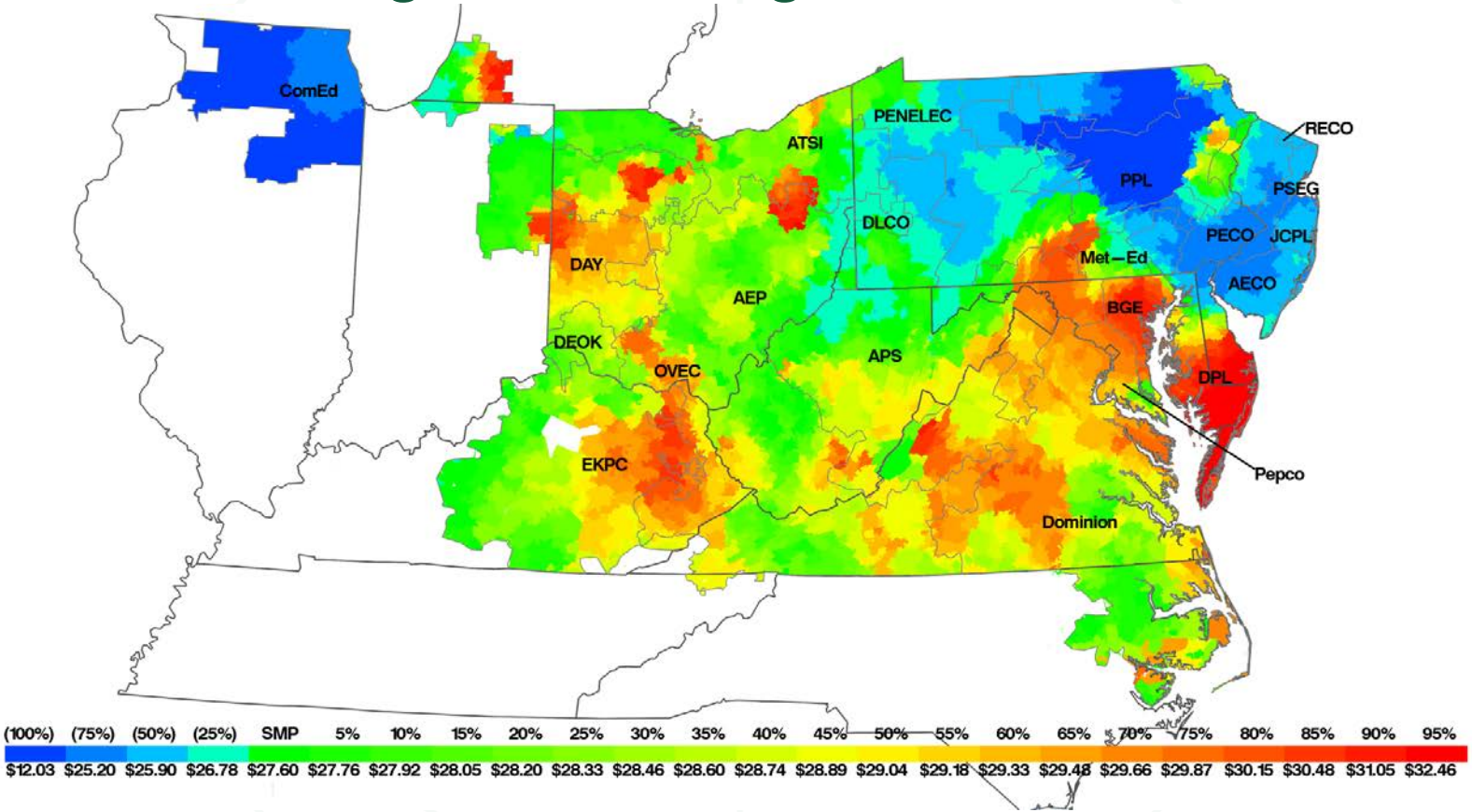
RT, load-weighted, average LMP

	Real-Time, Load-Weighted, Average LMP			Year-to-Year Change		
(Jan-Sep)	Average	Median	Standard Deviation	Average	Median	Standard Deviation
1998	$26.06	$18.20	$44.65	NA	NA	NA
1999	$38.65	$20.02	$104.17	48.3%	10.0%	133.3%
2000	$28.49	$19.30	$26.89	(26.3%)	(3.6%)	(74.2%)
2001	$40.96	$28.18	$64.57	43.8%	46.0%	140.1%
2002	$31.95	$23.09	$29.14	(22.0%)	(18.1%)	(54.9%)
2003	$43.57	$38.17	$26.53	36.3%	65.3%	(9.0%)
2004	$46.44	$43.03	$21.89	6.6%	12.7%	(17.5%)
2005	$60.44	$50.10	$36.52	30.2%	16.4%	66.9%
2006	$56.39	$46.82	$40.70	(6.7%)	(6.5%)	11.4%
2007	$61.83	$55.12	$37.98	9.7%	17.7%	(6.7%)
2008	$77.27	$66.73	$43.80	25.0%	21.1%	15.3%
2009	$39.57	$34.57	$19.04	(48.8%)	(48.2%)	(56.5%)
2010	$49.91	$40.33	$29.65	26.2%	16.7%	55.7%
2011	$49.48	$38.72	$37.02	(0.9%)	(4.0%)	24.8%
2012	$35.02	$29.84	$25.44	(29.2%)	(22.9%)	(31.3%)
2013	$39.75	$33.61	$26.47	13.5%	12.6%	4.0%
2014	$58.60	$37.93	$86.22	47.4%	12.8%	225.8%
2015	$38.94	$29.09	$33.95	(33.5%)	(23.3%)	(60.6%)
2016	$29.32	$24.60	$17.13	(24.7%)	(15.4%)	(49.6%)
2017	$30.36	$26.26	$18.81	3.5%	6.7%	9.8%
2018	$39.43	$28.78	$36.82	29.9%	9.6%	95.7%
2019	$27.60	$24.23	$18.69	(30.0%)	(15.8%)	(49.2%)

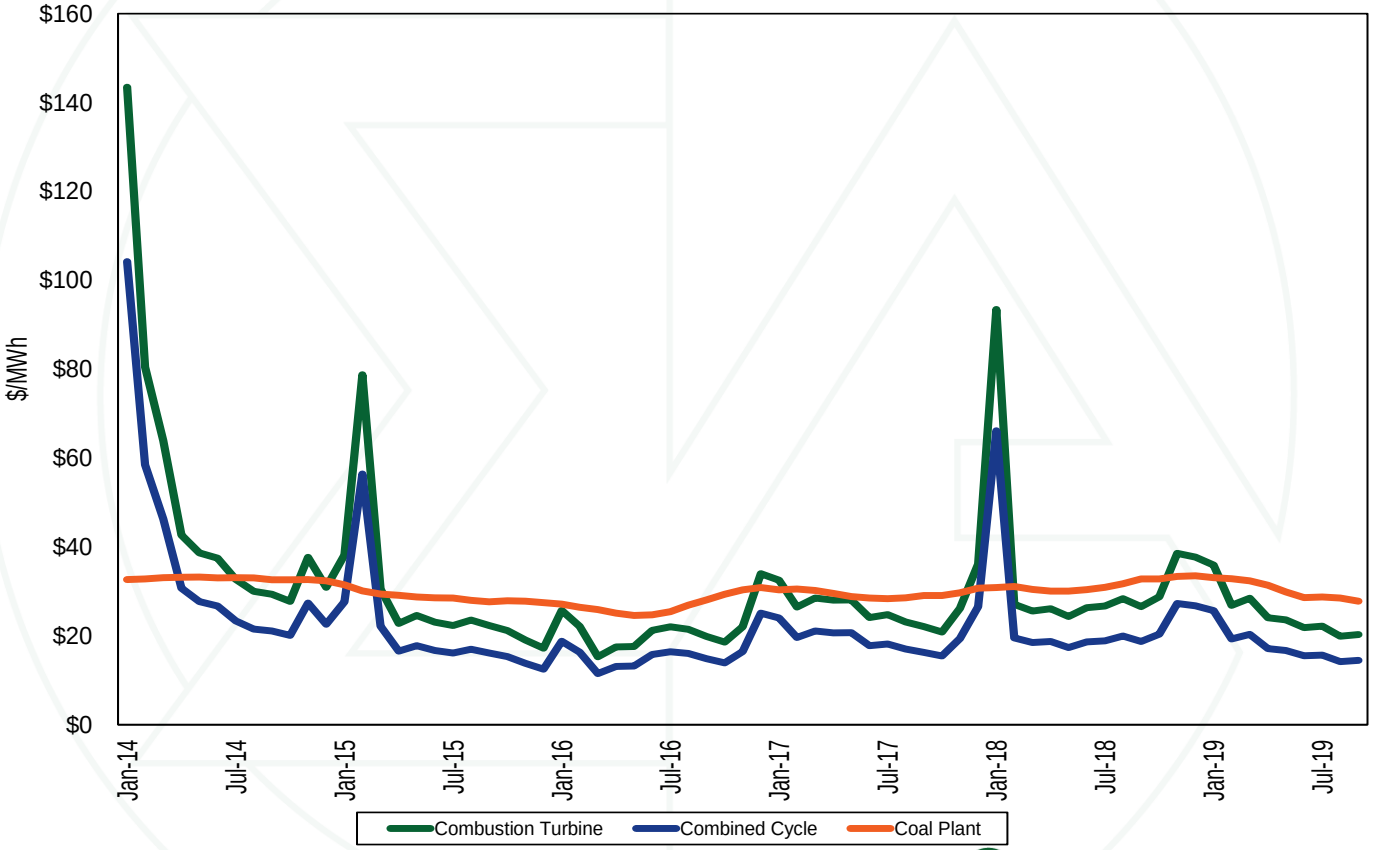
RT, monthly and annual, load-weighted, average LMP



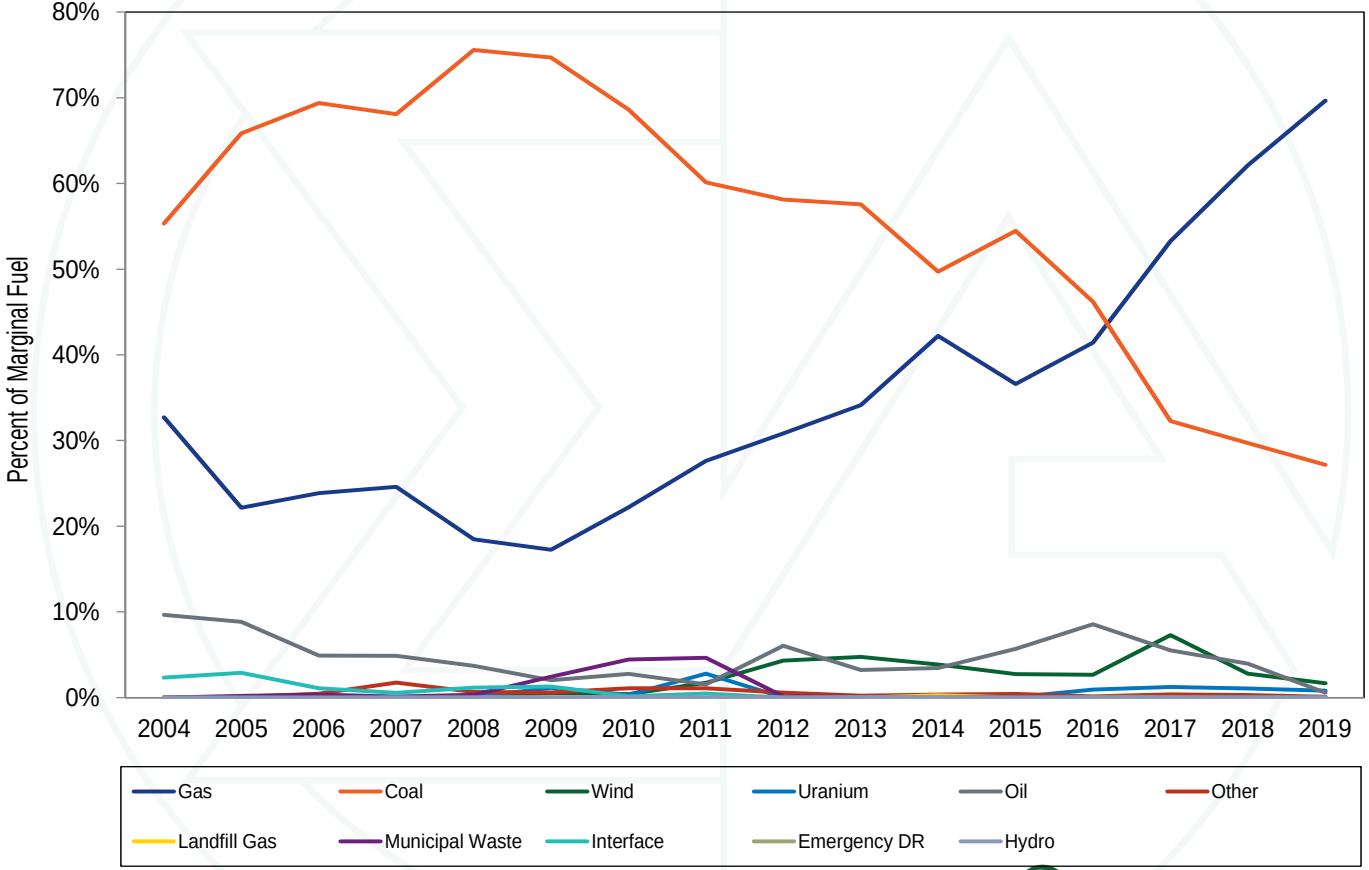
RT, load-weighted, average LMP



Average short run marginal costs



Type of fuel used by real-time marginal units



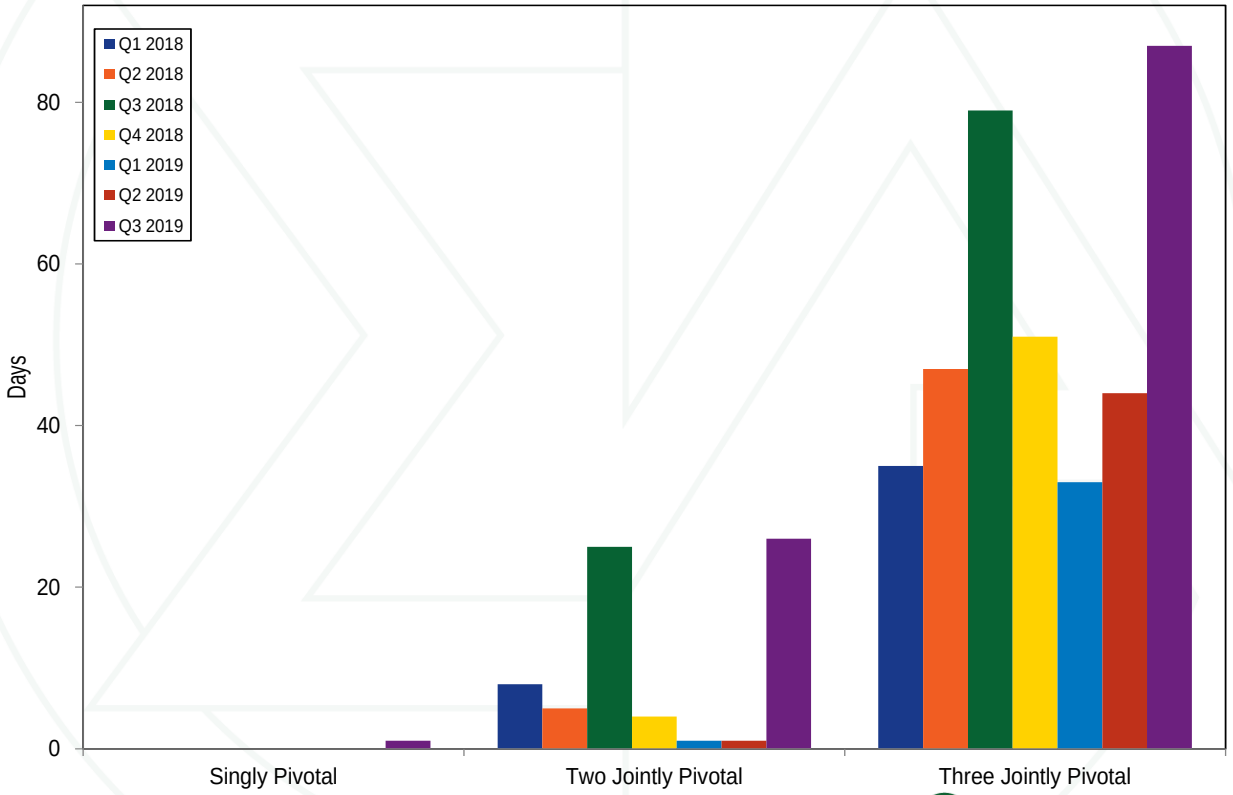
RT, fuel-cost adjusted, load-weighted average LMP

	2019 Fuel-Cost Adjusted, Load-Weighted LMP	2019 Load-Weighted LMP	Change	Percent Change
Average	$31.65	$27.60	($4.05)	(12.8%)
	2018 Load-Weighted LMP	2019 Fuel-Cost Adjusted, Load-Weighted LMP	Change	Percent Change
Average	$39.43	$31.65	($7.78)	(19.7%)
	2018 Load-Weighted LMP	2019 Load-Weighted LMP	Change	Change
Average	$39.43	$27.60	($11.83)	(30.0%)

Components of LMP

Element	2018 (Jan - Sep) Contribution to LMP	2018 (Jan - Sep) Percent	2019 (Jan - Sep) Contribution to LMP	2019 (Jan - Sep) Percent	Change Percent
Gas	$15.51	39.3%	$11.79	42.7%	3.4%
Coal	$7.84	19.9%	$7.40	26.8%	6.9%
Ten Percent Adder	$2.76	7.0%	$2.12	7.7%	0.7%
Markup	$5.17	13.1%	$1.95	7.1%	(6.0%)
VOM	$1.48	3.8%	$1.69	6.1%	2.4%
Increase Generation Adder	$0.92	2.3%	$1.42	5.1%	2.8%
NA	$2.11	5.3%	$0.32	1.1%	(4.2%)
Scarcity Adder	$0.03	0.1%	$0.26	1.0%	0.9%
CO_2 Cost	$0.12	0.3%	$0.22	0.8%	0.5%
Ancillary Service Redispatch Cost	$0.41	1.0%	$0.21	0.7%	(0.3%)
LPA Rounding Difference	$0.65	1.6%	$0.14	0.5%	(1.1%)
Opportunity Cost Adder	$0.08	0.2%	$0.09	0.3%	0.1%
Oil	$2.23	5.7%	$0.06	0.2%	(5.5%)
NO_x Cost	$0.11	0.3%	$0.02	0.1%	(0.2%)
Constraint Violation Adder	($0.00)	(0.0%)	$0.01	0.0%	0.0%
Other	$0.07	0.2%	$0.00	0.0%	(0.2%)
Market-to-Market Adder	$0.01	0.0%	$0.00	0.0%	(0.0%)
SO_2 Cost	$0.01	0.0%	$0.00	0.0%	(0.0%)
Landfill Gas	$0.00	0.0%	$0.00	0.0%	0.0%
Uranium	($0.00)	(0.0%)	$0.00	0.0%	0.0%
Municipal Waste	$0.13	0.3%	$0.00	0.0%	(0.3%)
Wind	($0.01)	(0.0%)	$0.00	0.0%	0.0%
LPA-SCED Differential	($0.02)	(0.1%)	($0.01)	(0.0%)	0.0%
Renewable Energy Credits	($0.04)	(0.1%)	($0.02)	(0.1%)	0.0%
Decrease Generation Adder	($0.13)	(0.3%)	($0.06)	(0.2%)	0.1%
Total	$39.43	100.0%	$27.60	100.0%	0.0%

Pivotal suppliers: Day-Ahead Energy Market

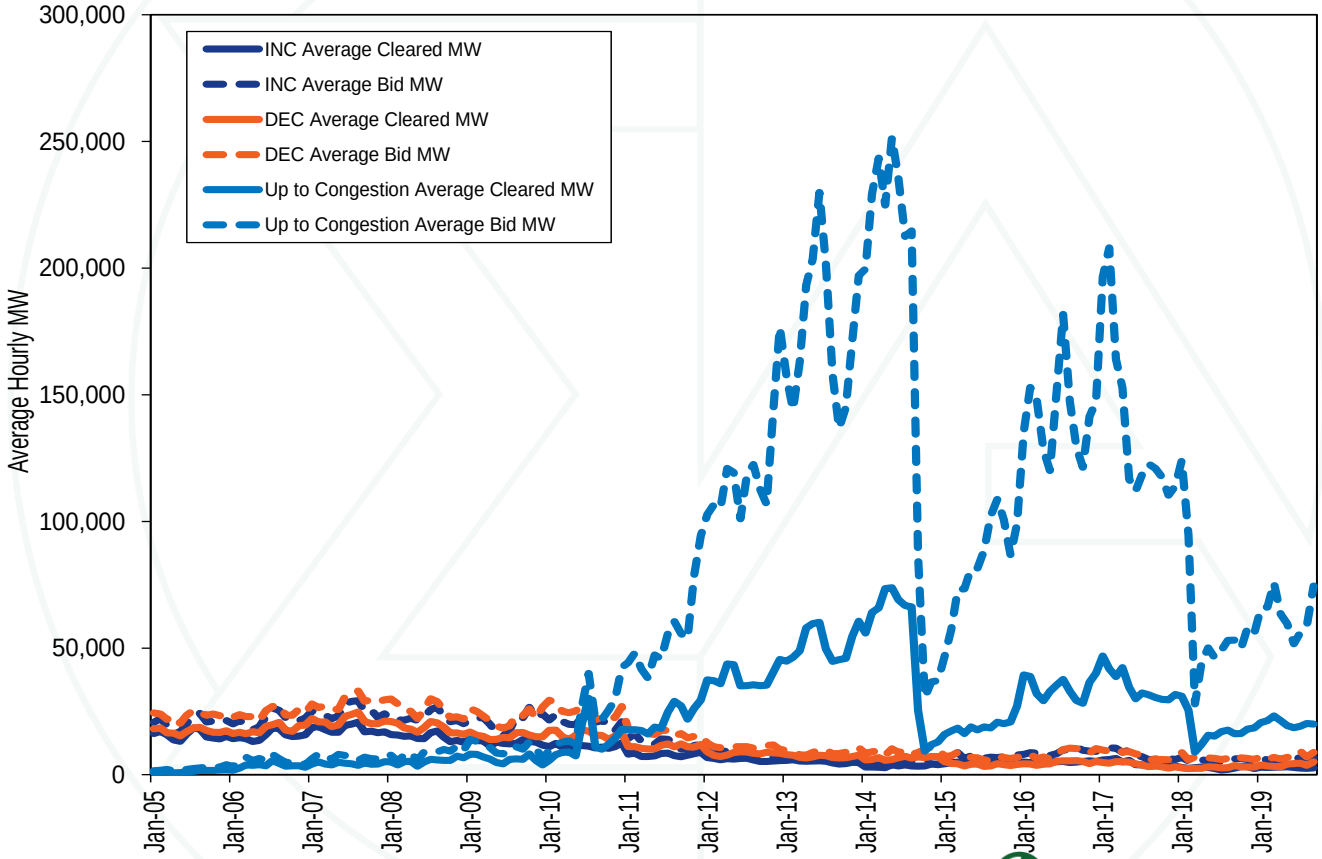


Monitoring Analytics

Offer capping statistics – energy market

(Jan-Sep)	Real-Time Unit Hours Capped	Real-Time MWh Capped	Day-Ahead Unit Hours Capped	Day-Ahead MWh Capped
2015	0.4%	0.3%	0.2%	0.2%
2016	0.4%	0.3%	0.0%	0.1%
2017	0.3%	0.1%	0.0%	0.1%
2018	1.0%	0.5%	0.1%	0.1%
2019	1.6%	1.1%	1.1%	0.7%

Monthly bid and cleared INCs, DECs and UTCs



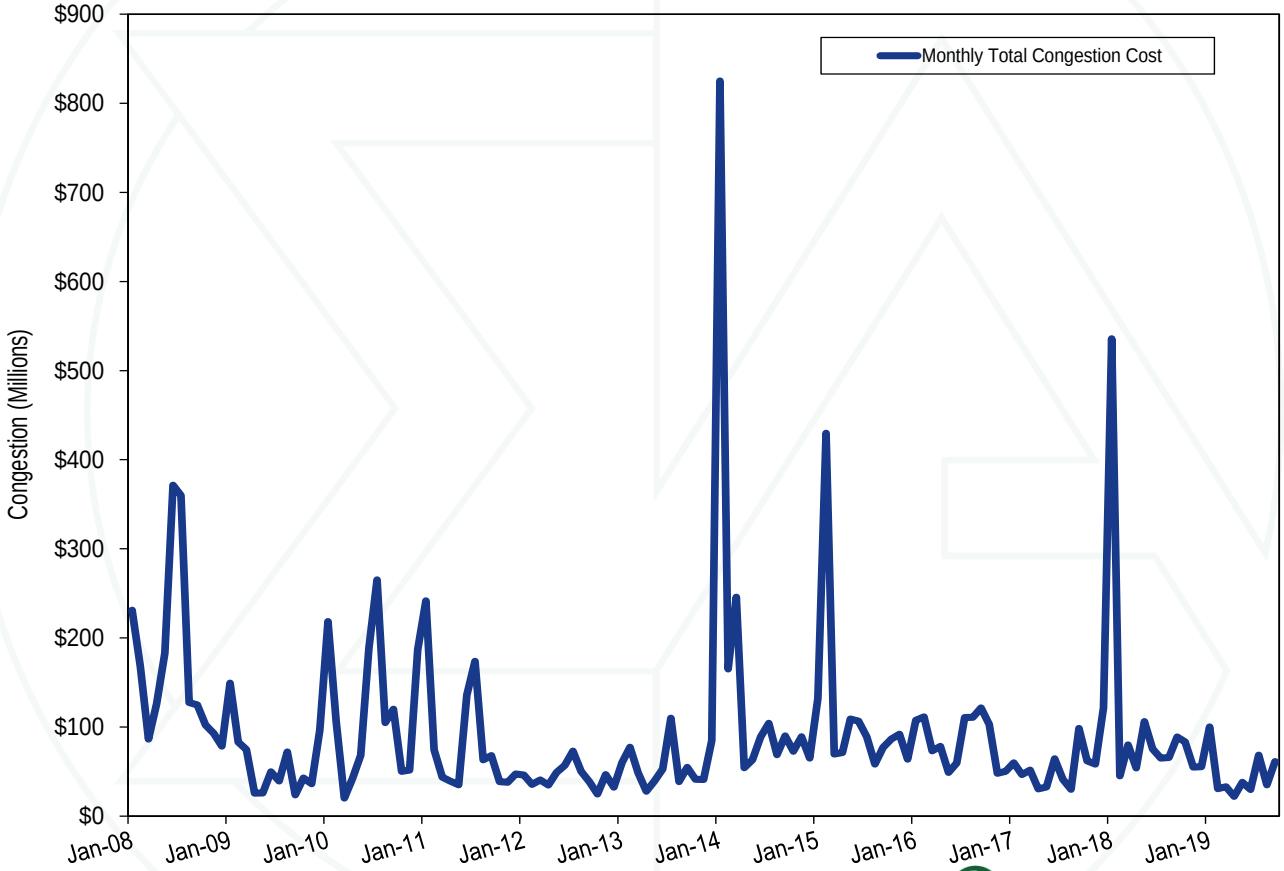
UTC transactions by parent type

	2018 (Jan-Sep)				2019 (Jan-Sep)			
Category	Total Up to Congestion Bid MWh	Percent	Total Up to Congestion Cleared MWh	Percent	Total Up to Congestion Bid MWh	Percent	Total Up to Congestion Cleared MWh	Percent
Financial	387,384,301	98.5%	111,150,309	96.2%	408,325,274	98.2%	128,203,350	95.8%
Physical	5,911,253	1.5%	4,401,790	3.8%	7,684,296	1.8%	5,654,374	4.2%
Total	393,295,554	100.0%	115,552,099	100.0%	416,009,570	100.0%	133,857,724	100.0%

Total congestion

Congestion Costs (Millions)				
(Jan - Sep)	Congestion Cost	Percent Change	Total PJM Billing	Percent of PJM Billing
2008	$1,778	NA	$26,979	6.6%
2009	$544	(69.4%)	$19,927	2.7%
2010	$1,134	108.7%	$26,249	4.3%
2011	$875	(22.9%)	$28,836	3.0%
2012	$425	(51.4%)	$22,119	1.9%
2013	$510	19.9%	$25,153	2.0%
2014	$1,705	234.6%	$40,770	4.2%
2015	$1,143	(33.0%)	$33,710	3.4%
2016	$822	(28.1%)	$29,490	2.8%
2017	$455	(44.6%)	$29,510	1.5%
2018	$1,116	145.1%	$37,950	2.9%
2019	$419	(62.5%)	$29,980	1.4%

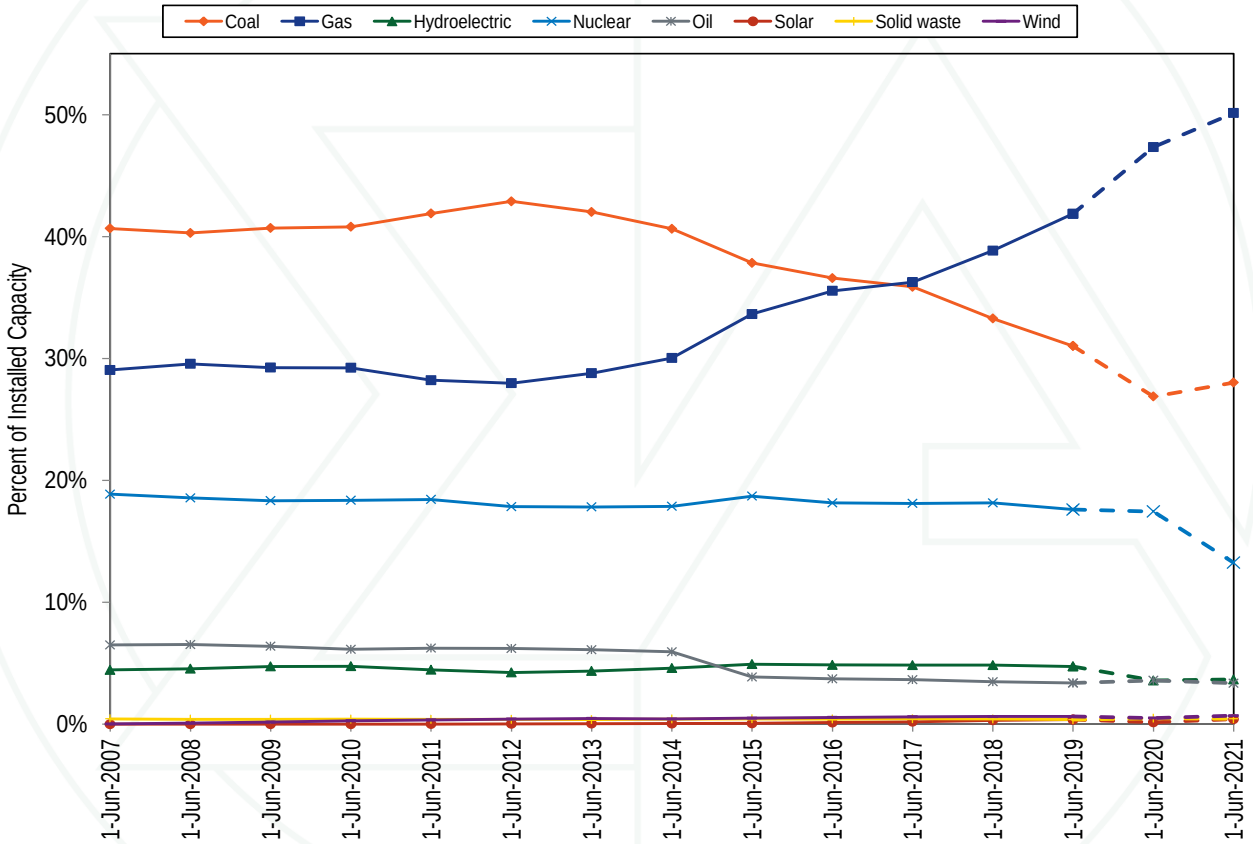
Monthly total congestion



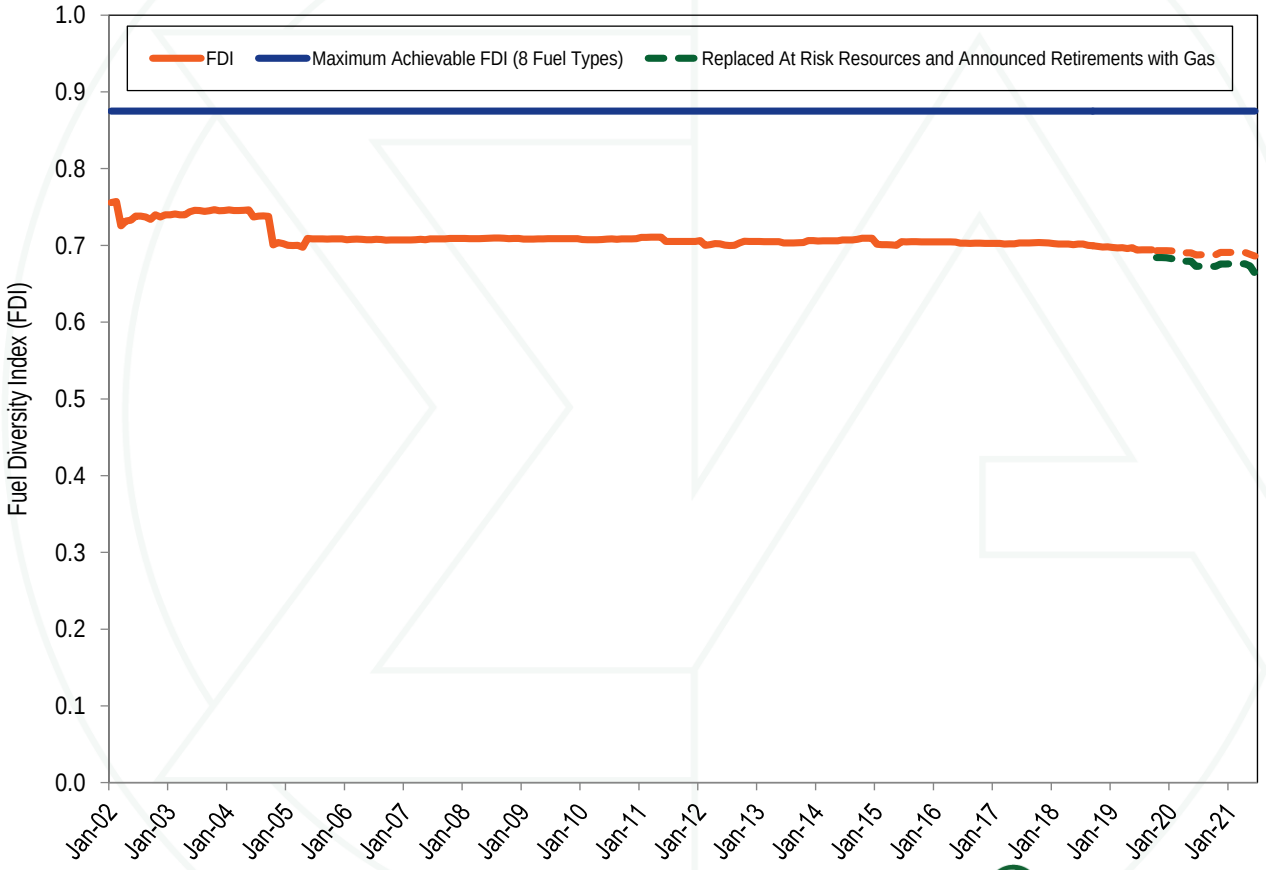
Installed capacity by fuel source

	01-Jan-19		31-May-19		01-Jun-19		30-Sep-19	
	MW	Percent	MW	Percent	MW	Percent	MW	Percent
Coal	60,763.4	32.6%	58,833.6	31.7%	58,043.9	31.0%	57,877.0	31.0%
Gas	75,261.2	40.4%	75,770.8	40.9%	78,475.8	41.9%	78,477.3	42.1%
Hydroelectric	8,888.2	4.8%	8,873.9	4.8%	8,873.9	4.7%	8,873.9	4.8%
Nuclear	32,684.5	17.5%	33,000.7	17.8%	33,001.7	17.6%	32,297.9	17.3%
Oil	6,388.2	3.4%	6,342.2	3.4%	6,330.2	3.4%	6,331.6	3.4%
Solar	640.0	0.3%	686.2	0.4%	702.6	0.4%	757.4	0.4%
Solid waste	712.3	0.4%	712.3	0.4%	702.3	0.4%	695.6	0.4%
Wind	1,158.3	0.6%	1,158.3	0.6%	1,192.2	0.6%	1,192.2	0.6%
Total	186,496.1	100.0%	185,378.0	100.0%	187,322.6	100.0%	186,502.9	100.0%

Percent of installed capacity by fuel source



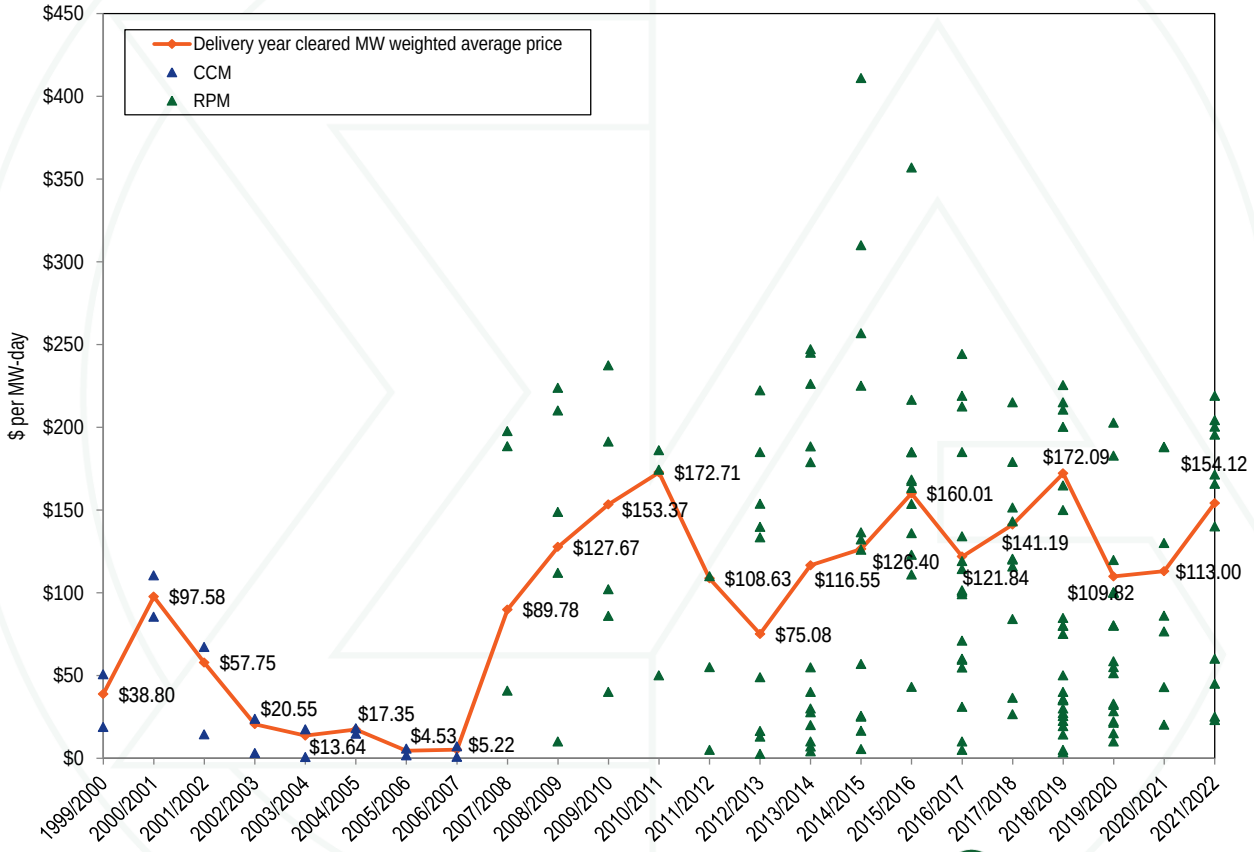
FDI for installed capacity



EFORd trends

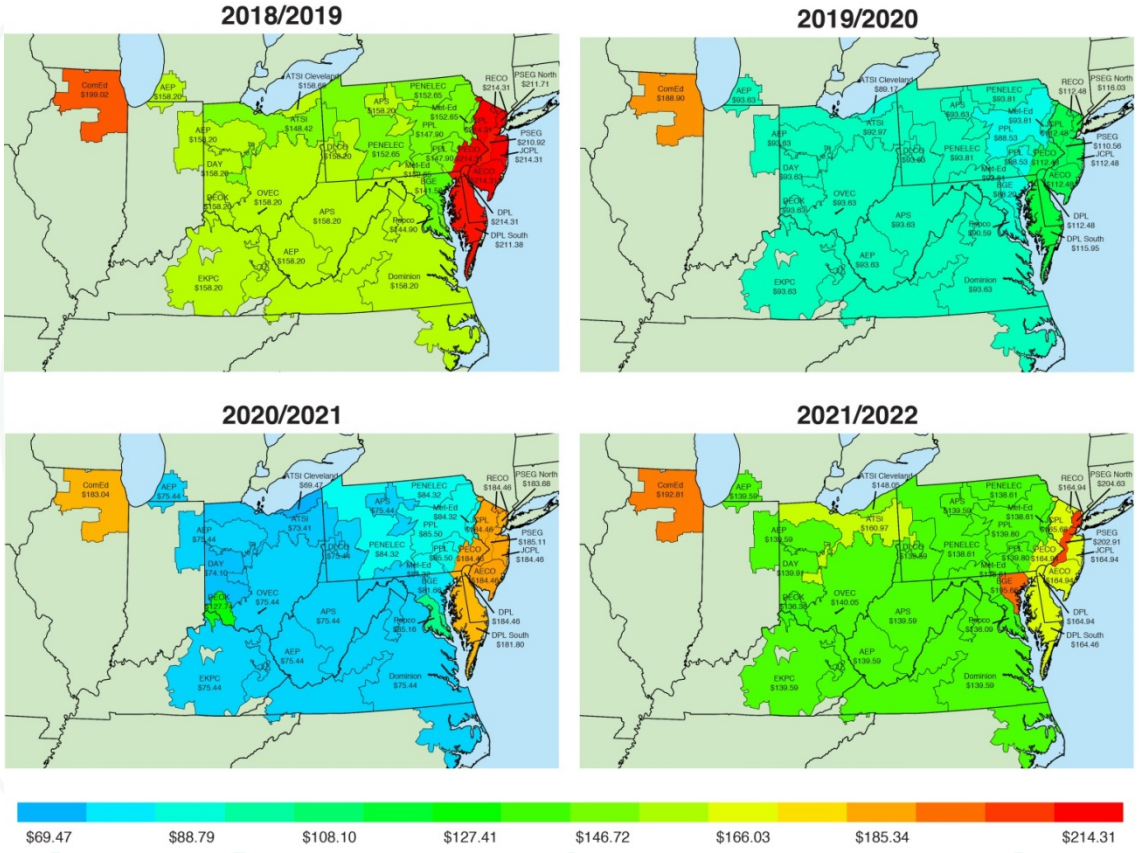
Monitoring Analytics

History of capacity prices



Monitoring Analytics

Capacity prices



Nuclear unit forward annual surplus (shortfall)

	Surplus (Shortfall) ($/MWh)		
	2019	2020	2021
Beaver Valley	$3.41	$5.04	$5.06
Braidwood	$3.61	$3.57	$2.57
Byron	$3.27	$3.56	$2.56
Calvert Cliffs	$4.73	$5.77	$5.71
Davis Besse	($9.50)	($8.78)	($7.87)
Dresden	$4.29	$4.48	$3.44
Hope Creek	$2.03	$4.61	$4.23
LaSalle	$3.53	$3.57	$2.57
Limerick	$2.19	$4.66	$4.28
North Anna	$4.27	$5.15	$5.18
Peach Bottom	$1.33	$4.49	$4.11
Perry	($8.84)	($7.28)	($6.48)
Quad Cities	$2.44	$2.34	$1.38
Salem	$2.02	$4.59	$4.21
Surry	$3.72	$4.99	$5.03
Susquehanna	($1.04)	$1.06	$1.15

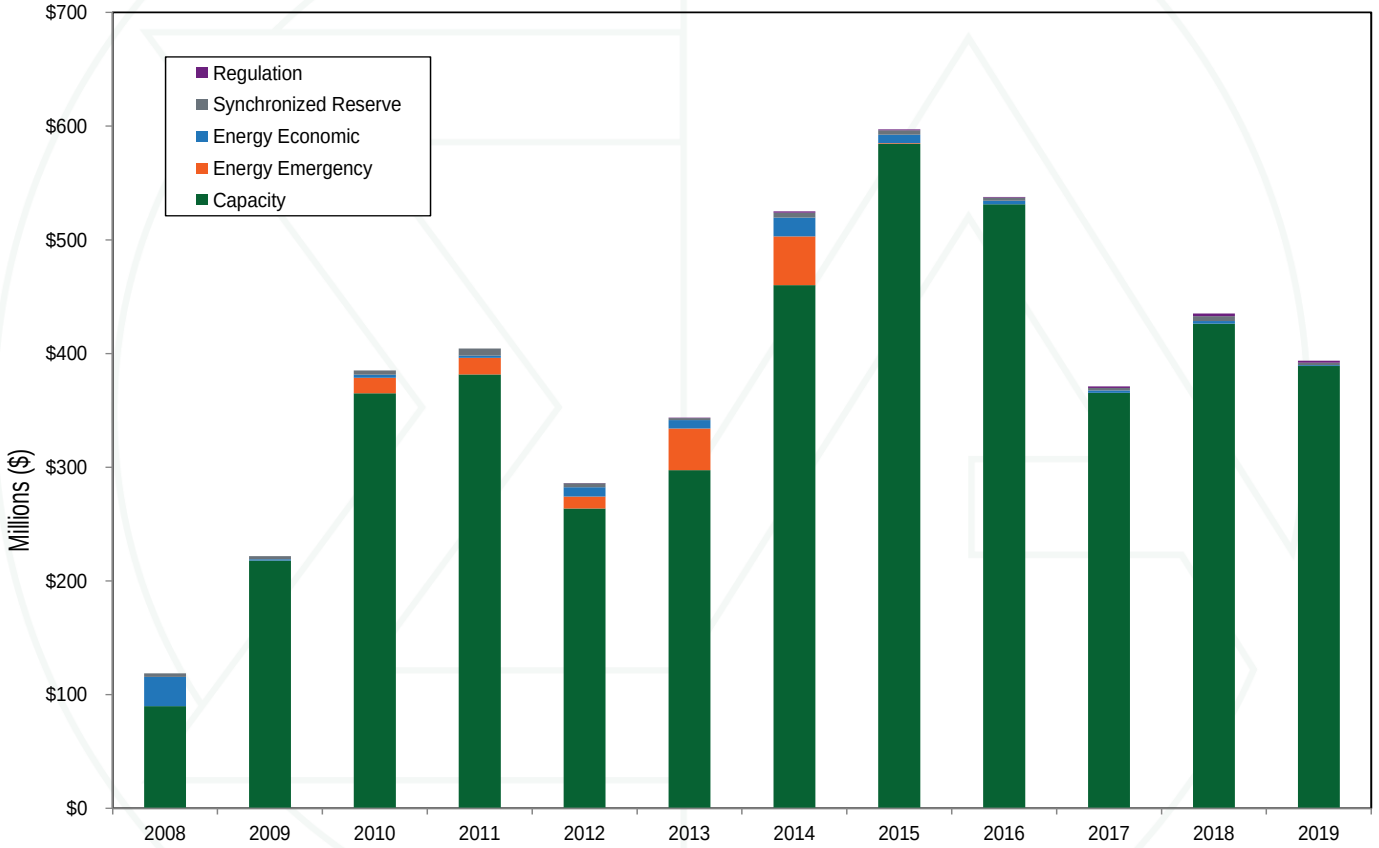
Nuclear unit forward annual surplus (shortfall)

	Surplus (Shortfall) ($ in millions)		
	2019	2020	2021
Beaver Valley	$50.9	$75.4	$75.4
Braidwood	$69.7	$69.1	$49.5
Byron	$62.1	$67.7	$48.5
Calvert Cliffs	$66.7	$81.6	$80.5
Davis Besse	($70.1)	($64.9)	($58.1)
Dresden	$63.5	$66.6	$51.0
Hope Creek	$19.6	$44.7	$40.9
LaSalle	$66.1	$67.1	$48.1
Limerick	$40.6	$86.5	$79.1
North Anna	$66.7	$80.6	$80.8
Peach Bottom	$25.7	$87.2	$79.6
Perry	($90.4)	($74.7)	($66.3)
Quad Cities	$36.6	$35.2	$20.7
Salem	$38.7	$88.4	$80.8
Surry	$51.5	$69.2	$69.5
Susquehanna	($21.7)	$22.1	$23.9

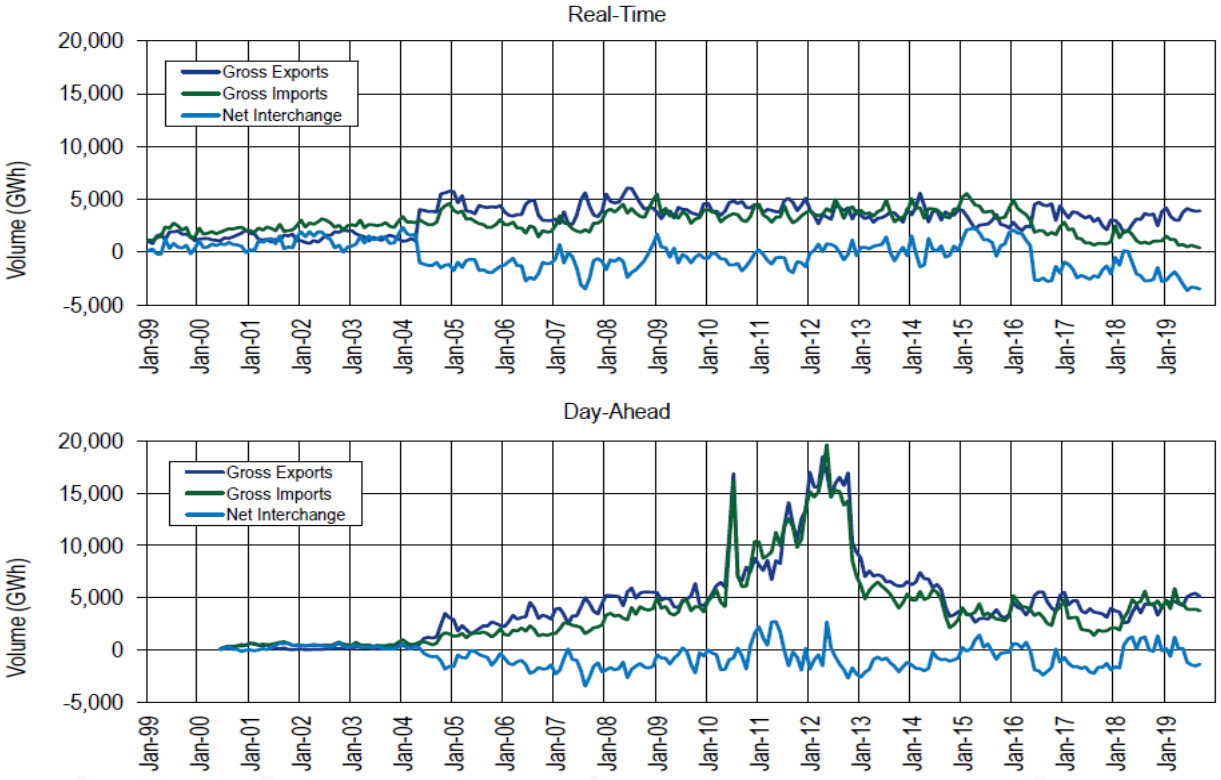
RPM reserve margin: June 1, 2016, to June 1, 2021

	Generation and DR RPM Committed Less Deficiency UCAP (MW)	Forecast Peak Load	FRR Peak Load	PRD	RPM Peak Load	IRM	Pool Wide Average EFORd	Generation and DR RPM Committed Less Deficiency ICAP (MW)	Reserve Margin	Reserve Margin in Excess of IRM		Projected Replacement Capacity using Cleared Buy Bids UCAP (MW)	Projected Reserve Margin
										Percent	ICAP (MW)		
01-Jun-16	160,883.3	152,356.6	12,511.6	0.0	139,845.0	16.4%	5.91%	170,988.7	22.3%	5.9%	8,209.2	0.0	22.3%
01-Jun-17	163,872.0	153,230.1	12,837.5	0.0	140,392.6	16.6%	5.94%	174,220.7	24.1%	7.5%	10,522.9	0.0	24.1%
01-Jun-18	161,242.6	152,407.9	12,732.9	0.0	139,675.0	16.1%	6.07%	171,662.5	22.9%	6.8%	9,499.8	0.0	22.9%
01-Jun-19	162,276.1	151,643.5	12,284.2	0.0	139,359.3	16.0%	6.08%	172,781.2	24.0%	8.0%	11,124.4	0.0	24.0%
01-Jun-20	167,273.9	151,155.1	11,930.9	558.0	138,666.2	15.9%	6.04%	178,026.7	28.4%	12.5%	17,312.6	5,299.2	24.3%
01-Jun-21	162,632.9	151,832.3	11,982.6	510.0	139,339.7	15.8%	6.01%	173,032.1	24.2%	8.4%	11,676.8	1,906.3	22.7%

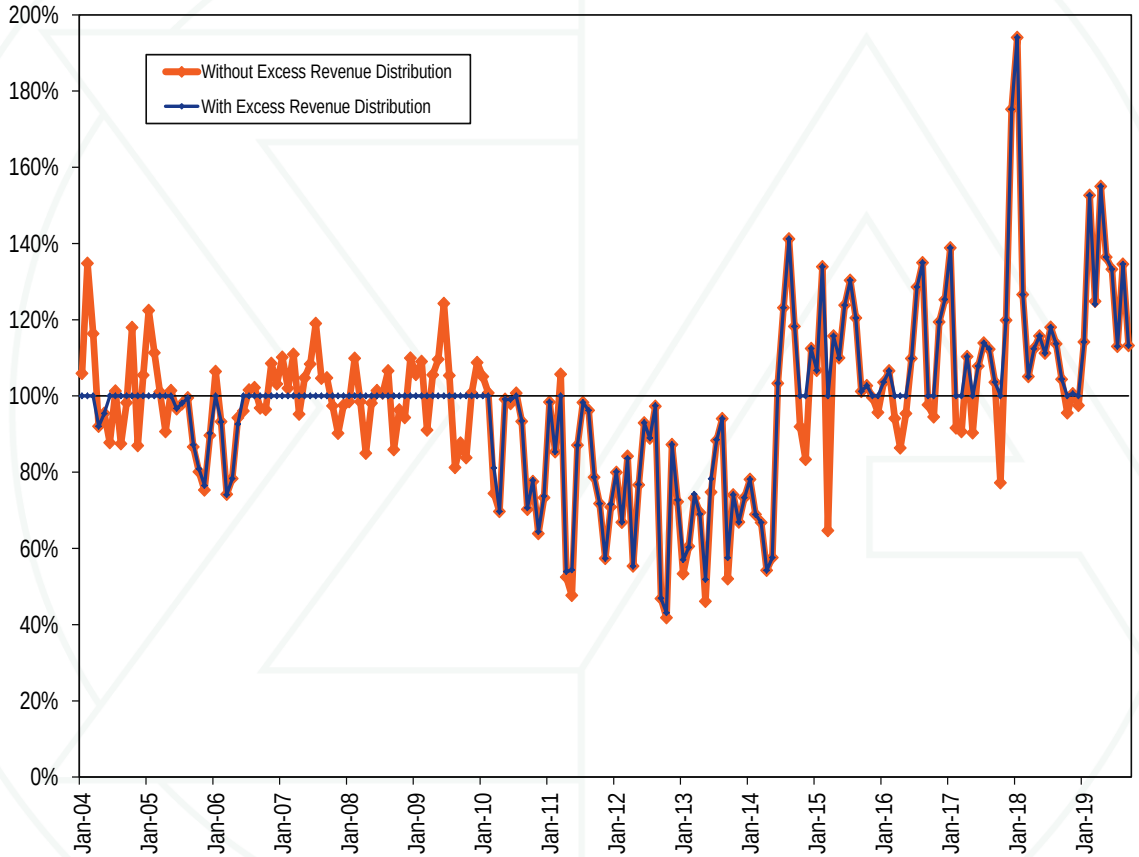
Demand response revenue by market



Scheduled import and export transaction volume history



FTR payout ratio by month



PJM reported FTR payout ratio by planning period

Planning Period	FTR Payout Ratio
2003/2004	97.7%
2004/2005	100.0%
2005/2006	90.7%
2006/2007	100.0%
2007/2008	100.0%
2008/2009	100.0%
2009/2010	96.9%
2010/2011	85.0%
2011/2012	80.6%
2012/2013	67.8%
2013/2014	72.8%
2014/2015	100.0%
2015/2016	100.0%
2016/2017	100.0%
2017/2018	100.0%
2018/2019	100.0%
2019/2020	100.0%

ARR and FTR total congestion offset for ARR holders

Revenue					Pre 2017/2018 (Without Balancing)		2017/2018 (With Balancing)		Post 2017/2018 (With Surplus)	
Planning Period	ARR Credits	FTR Credits	Total Congestion	Surplus Revenue	ARR/FTR Offset	Percent Offset	Revenue Received	Percent Offset	Revenue Received	New Offset
2011/2012	$512.2	$249.8	$749.7	($192.5)	$762.0	101.6%	$598.6	79.8%	$563.0	79.8%
2012/2013	$349.5	$181.9	$524.8	($292.3)	$531.4	101.3%	$275.9	52.6%	$257.5	52.6%
2013/2014	$337.7	$456.4	$1,870.6	($678.7)	$794.0	42.4%	$574.1	30.7%	$623.1	30.7%
2014/2015	$482.4	$404.4	$1,357.6	$139.6	$886.8	65.3%	$686.6	50.6%	$715.0	52.7%
2015/2016	$635.3	$223.4	$951.1	$42.5	$858.8	90.3%	$744.8	78.3%	$745.2	78.4%
2016/2017	$640.0	$169.1	$780.8	$72.6	$809.1	103.6%	$727.7	93.2%	$763.8	97.8%
2017/2018	$427.3	$294.2	$1,192.6	$371.2	$721.5	60.5%	$595.7	50.0%	$886.5	74.3%
2018/2019	$529.1	$130.1	$680.0	$112.3	$675.93	99.4%	$530.8	78.1%	$626.3	92.1%
2019/2020*	$179.8	$35.9	$185.5	$47.9	$222.93	120.2%	$174.9	94.3%	$215.5	116.2%
Total	$4,093.3	$2,145.0	$8,292.8	($377.4)	$6,262.4	75.5%	$4,909.3	59.2%	$5,396.1	65.1%

* Four months of 2019/2020 planning period

Results of Market Monitor 2019 Fuel Cost Policy Review

2019 Fuel Cost Policy Annual Review

- **Results:**

IMM	Units	Percent
Passed	1,171	91%
Failed	110	9%
Total	1,281	100%

PJM	Units	Percent
Approved	1,281	100%
Rejected	0	0%
Total	1,281	100%

- **Improvement from 2018. In 2018, 13 percent of all units had fuel cost policies failed by the Market Monitor.**

Reasons Fuel Cost Policies Fail

- **Unverifiable cost estimates. Some of these policies include options under which the estimates of the natural gas commodity cost are calculated by the market seller without specifying a verifiable, quantitative method. For example, some FCPs specify that the source of the natural gas cost would be communications with traders within the market seller's organization.**

Reasons Fuel Cost Policies Fail

- **Use of available market information that results in inaccurate expected costs. Some market sellers include the use of offers to sell natural gas on ICE as the sole basis for the cost of natural gas. An offer to sell is not a reliably accurate measure of the expected fuel cost. The price of uncleared offers on ICE generally exceeds the price of cleared transactions, often by a wide margin. The difference is generally large on high demand days.**

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