



PIEOUG: PJM Market construct data for 2019

January 17, 2020

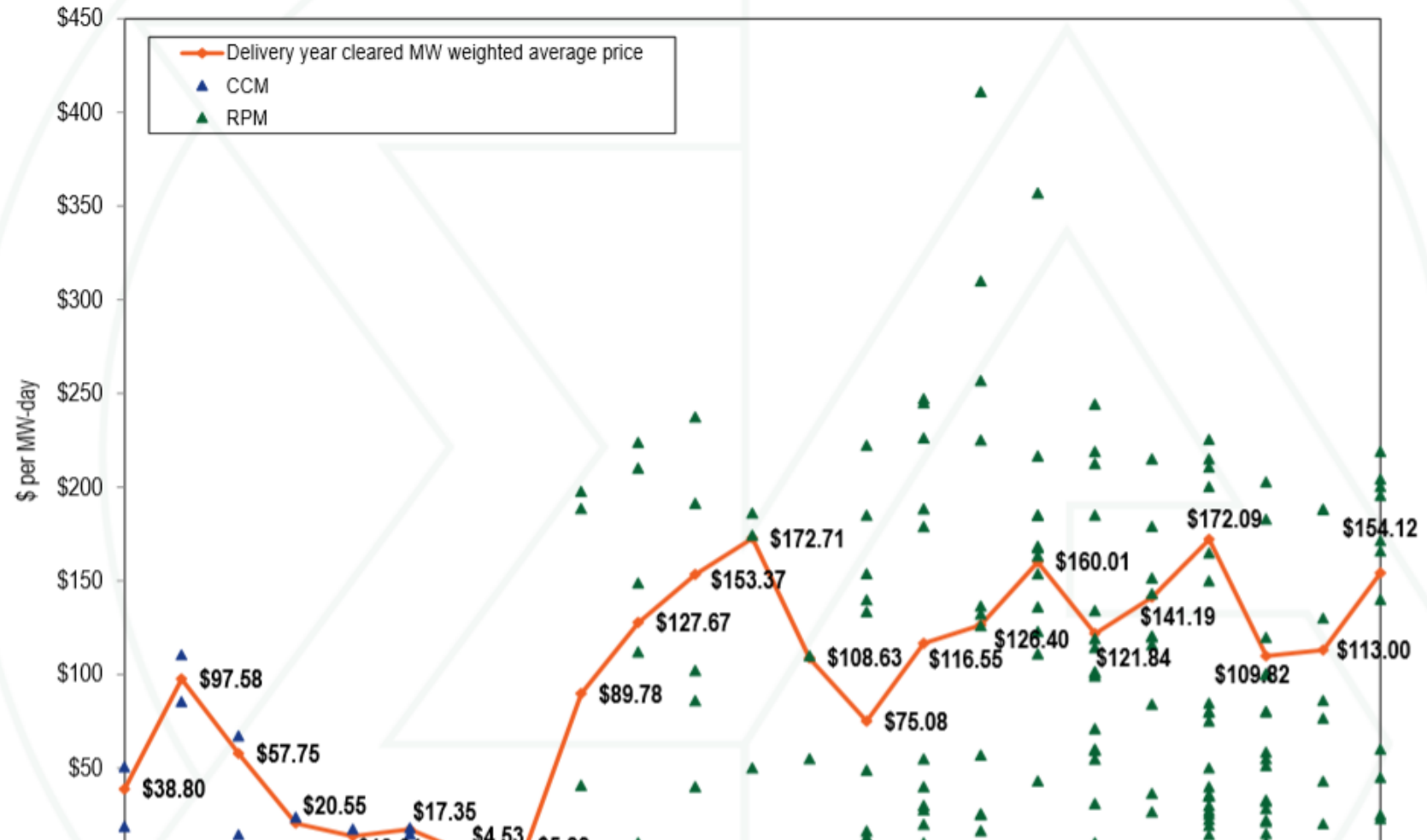
RT, load-weighted, average LMP

(Jan-Sep)	Real-Time, Load-Weighted, Average LMP			Year-to-Year Change		
	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%)

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%)

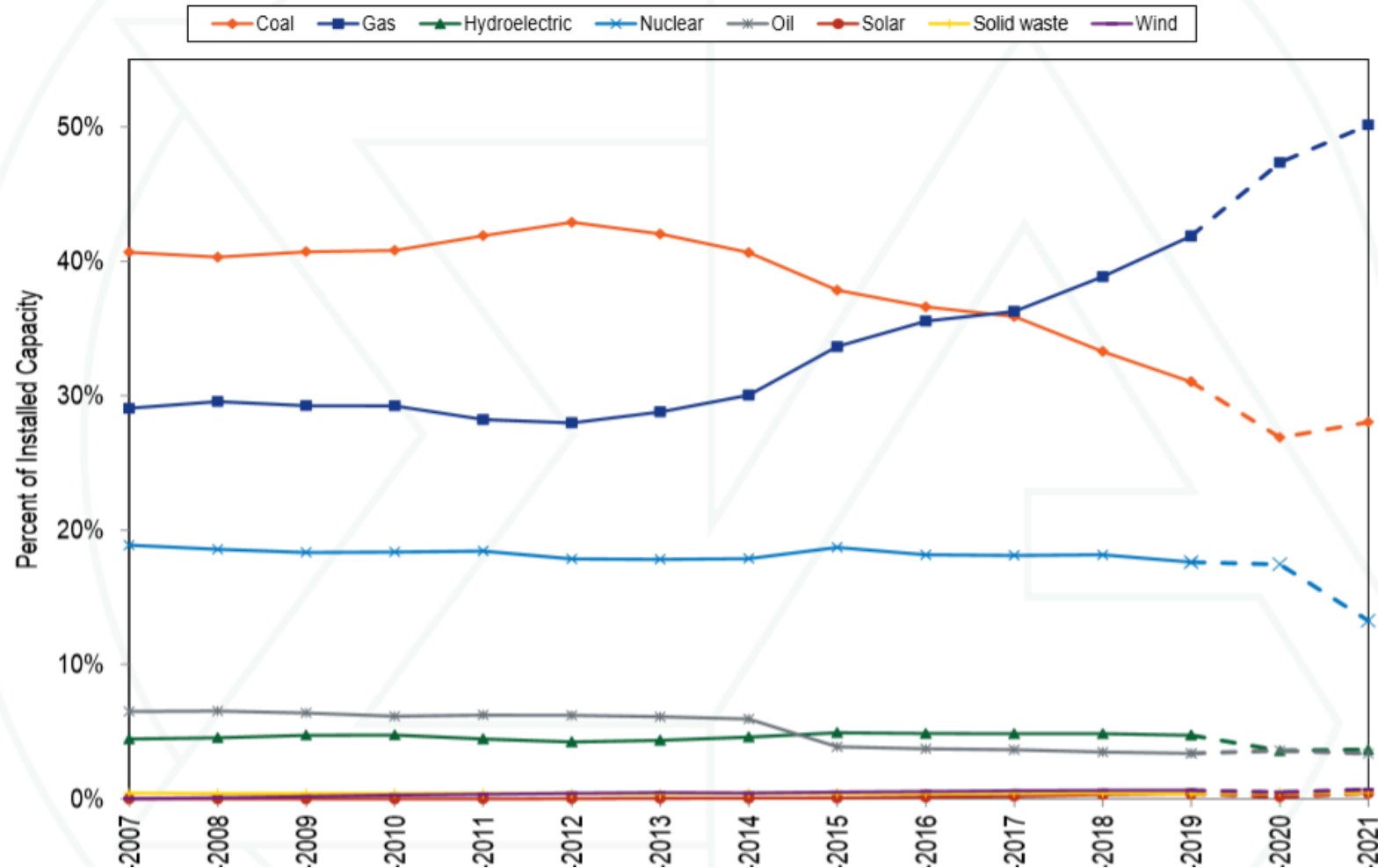
History of capacity prices



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

	Generation and DR				Pool Wide			Generation and DR		Reserve Margin		Projected Replacement	
	RPM Committed Less	Forecast	FRR		RPM Peak	Average	RPM Committed Less	Reserve	in Excess of IRM	Capacity using Cleared		Projected	
	Deficiency UCAP (MW)	Peak Load	Peak Load	PRD	Load	EFORD	Deficiency ICAP (MW)	Margin	Percent	Buy Bids UCAP (MW)		Reserve Margin	
						IRM			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%

Percent of installed capacity by fuel source

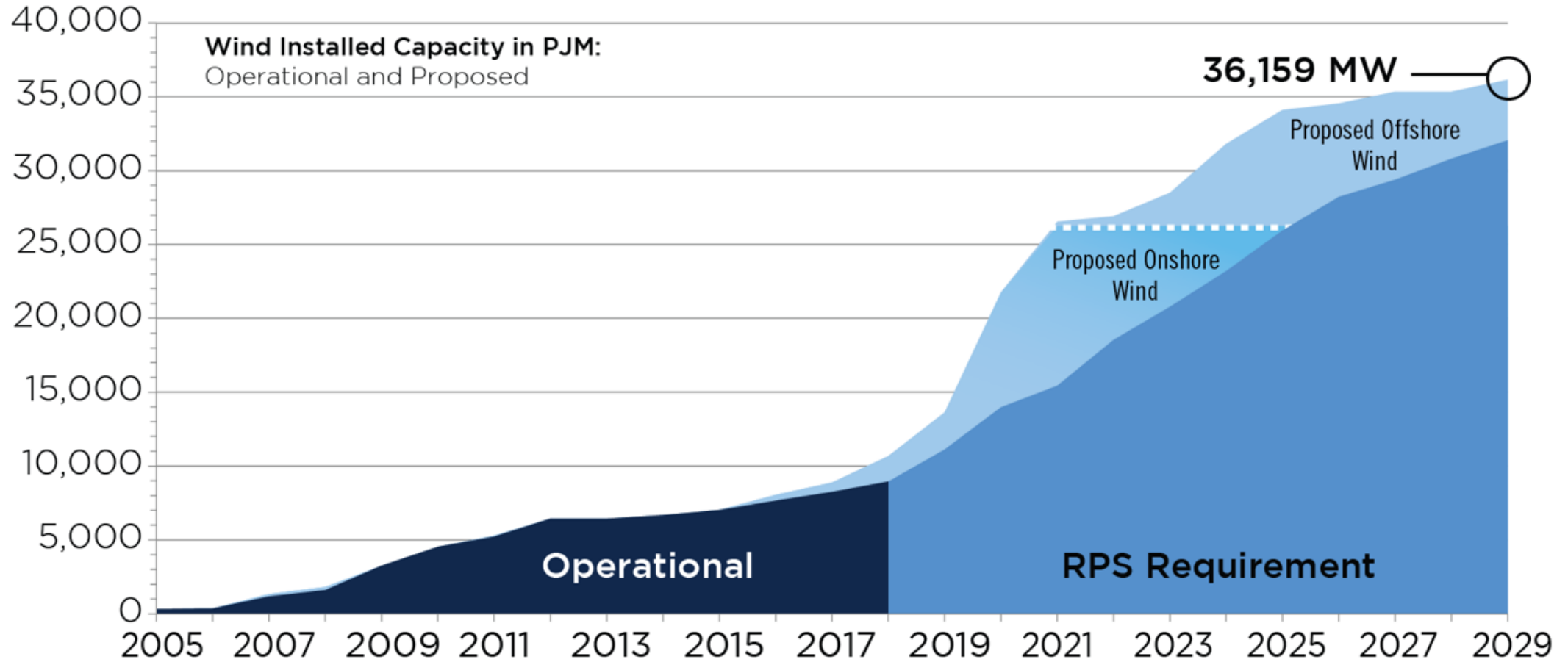




2018 Wind Capacity in PJM

Generation is Stated in MWh

Cumulative Nameplate (MW)



Contact information

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