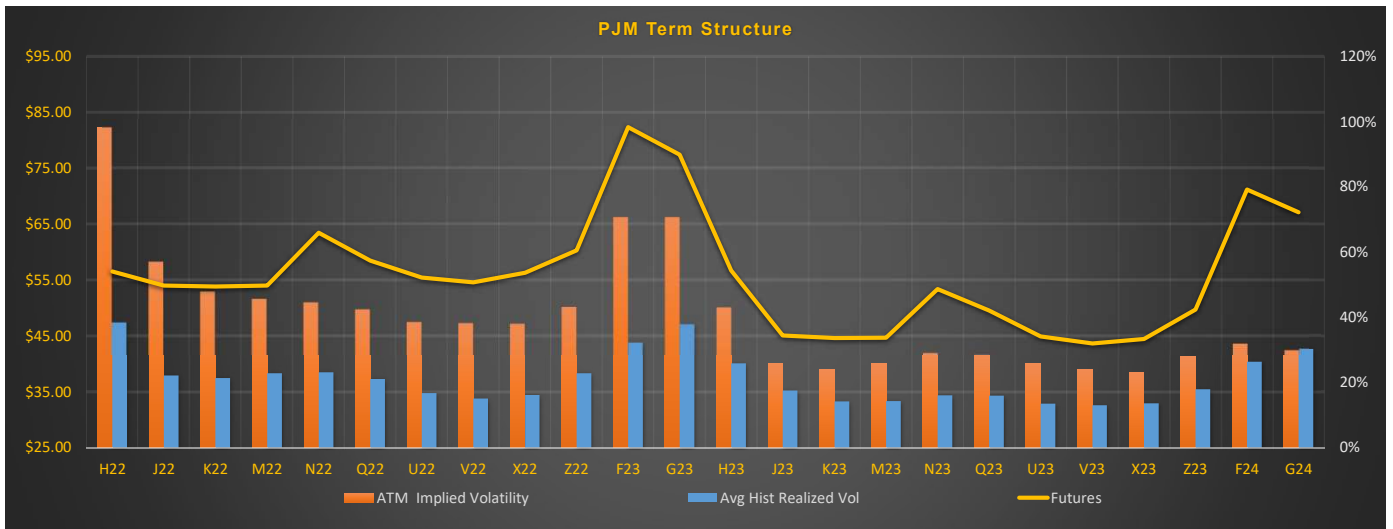


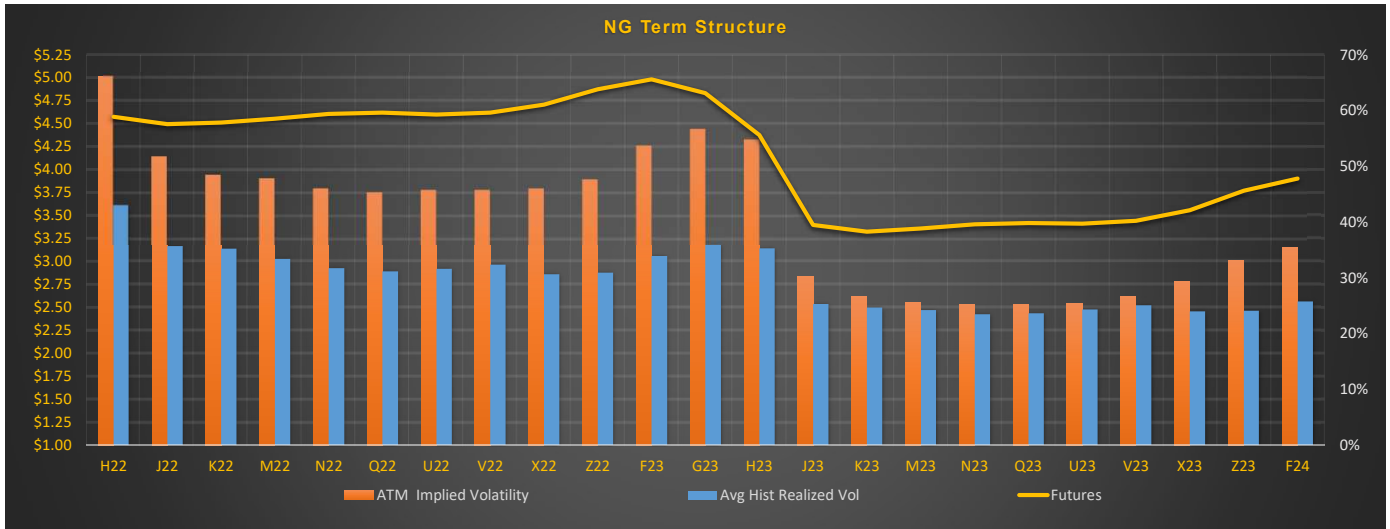
Date: 2/7/2022



PJM Term Structure																
Contract	Option Expiry	Trade Days to Expiry	Futures Price	ATM Straddle	Break-even	ATM Implied Volatility				Realized Volatility		Implied Volatility and Skew				
						Vol	1D Chg	1Wk Chg	1Mo Chg	Avg Hist	30 day	10d Put	25d Put	ATM	25d Call	10d Call
H22	2/25/22	14	\$ 56.55	\$ 10.07	\$ 3.49	98.1%	-0.3%	16.1%	21.1%	38.4%	72.3%	-14.2%	-10.1%	98.1%	10.7%	15.2%
J22	3/30/22	37	\$ 54.00	\$ 9.24	\$ 1.94	57.0%	2.8%	0.0%	15.6%	22.1%	41.6%	-6.7%	-2.8%	57.0%	1.2%	2.4%
K22	4/28/22	57	\$ 53.80	\$ 9.68	\$ 1.62	47.9%	-0.3%	4.8%	7.5%	21.3%	38.5%	-6.4%	-2.8%	47.9%	0.8%	1.8%
M22	5/27/22	78	\$ 54.00	\$ 10.74	\$ 1.55	45.6%	-1.3%	3.6%	5.0%	22.8%	38.6%	-8.0%	-3.6%	45.6%	0.9%	2.4%
N22	6/29/22	100	\$ 63.45	\$ 14.05	\$ 1.78	44.5%	-2.4%	4.3%	3.5%	23.1%	43.7%	-9.3%	-4.8%	44.5%	4.2%	5.6%
Q22	7/28/22	120	\$ 58.50	\$ 13.54	\$ 1.56	42.4%	-2.8%	3.6%	3.5%	21.0%	42.5%	-7.4%	-3.6%	42.4%	3.3%	5.8%
U22	8/30/22	143	\$ 55.40	\$ 12.74	\$ 1.34	38.5%	0.3%	2.0%	-1.5%	16.8%	36.4%	-6.6%	-4.9%	38.5%	2.9%	3.9%
V22	9/29/22	164	\$ 54.55	\$ 13.29	\$ 1.31	38.2%	0.1%	3.1%	-0.8%	15.1%	33.3%	-2.8%	-2.5%	38.2%	3.8%	4.9%
X22	10/28/22	185	\$ 56.30	\$ 14.50	\$ 1.35	38.0%	0.0%	4.5%	-1.0%	16.1%	33.7%	-1.6%	-1.2%	38.0%	3.6%	10.0%
Z22	11/29/22	206	\$ 60.30	\$ 18.58	\$ 1.64	43.1%	0.2%	4.2%	1.2%	22.8%	35.1%	-2.1%	-1.9%	43.1%	6.6%	19.8%
F23	12/29/22	227	\$ 82.35	\$ 43.07	\$ 3.66	70.6%	0.0%	5.5%	9.6%	32.2%	56.3%	-5.2%	-3.0%	70.6%	19.9%	26.0%
G23	1/30/23	247	\$ 77.45	\$ 42.33	\$ 3.44	70.6%	0.0%	7.1%	12.6%	37.8%	56.1%	-3.0%	-1.8%	70.6%	18.5%	28.0%
H23	2/27/23	266	\$ 56.65	\$ 19.79	\$ 1.53	43.0%	0.0%	1.0%	3.0%	25.9%	33.7%	-0.6%	-0.4%	43.0%	4.2%	8.6%
J23	3/30/23	289	\$ 45.05	\$ 9.95	\$ 0.74	26.0%	0.0%	1.8%	1.8%	17.5%	21.6%	-0.9%	-0.6%	26.0%	1.7%	4.0%
K23	4/27/23	308	\$ 44.60	\$ 9.38	\$ 0.67	24.0%	0.0%	0.8%	0.7%	14.2%	21.0%	-1.0%	-0.6%	24.0%	1.6%	3.9%
M23	5/30/23	330	\$ 44.65	\$ 10.53	\$ 0.73	26.0%	0.0%	1.8%	1.8%	14.3%	21.6%	-1.1%	-0.5%	26.0%	1.9%	2.8%
N23	6/29/23	352	\$ 53.40	\$ 14.52	\$ 0.98	29.0%	0.0%	1.0%	1.0%	16.1%	23.8%	-1.7%	-1.3%	29.0%	2.6%	4.3%
Q23	7/28/23	372	\$ 49.50	\$ 13.58	\$ 0.89	28.5%	0.0%	1.6%	1.6%	16.0%	23.4%	-1.4%	-0.9%	28.5%	2.9%	5.1%
U23	8/30/23	395	\$ 44.90	\$ 11.60	\$ 0.74	26.0%	0.0%	2.0%	2.0%	13.5%	21.2%	-1.4%	-0.9%	26.0%	2.6%	3.8%
V23	9/28/23	415	\$ 43.65	\$ 10.63	\$ 0.66	24.0%	0.0%	1.0%	1.0%	13.0%	18.6%	-1.0%	-0.7%	24.0%	2.1%	3.7%
X23	10/30/23	437	\$ 44.40	\$ 10.68	\$ 0.64	23.0%	0.0%	2.0%	2.0%	13.6%	19.2%	-0.8%	-0.5%	23.0%	0.7%	1.0%
Z23	11/29/23	458	\$ 49.70	\$ 14.82	\$ 0.88	28.0%	0.0%	1.0%	1.0%	17.9%	21.5%	-1.1%	-0.5%	28.0%	0.7%	1.0%
F24	12/28/23	478	\$ 71.15	\$ 24.69	\$ 1.43	31.9%	0.0%	0.0%	0.0%	26.3%	#N/A	-1.4%	-0.7%	31.9%	0.8%	1.9%
G24	1/30/24	499	\$ 67.10	\$ 22.38	\$ 1.26	29.9%	0.0%	0.0%	0.0%	30.3%	#N/A	-0.9%	-0.7%	29.9%	0.0%	-0.6%

PJM Cal 1x Term Structure																
Contract	Option Expiry	Trade Days to Expiry	Futures Price	ATM Straddle	Break-even	ATM Implied Volatility				Realized Volatility		Implied Volatility and Skew				
						Vol	1D Chg	1Wk Chg	1Mo Chg	Avg Hist	30 day	10d Put	25d Put	ATM	25d Call	10d Call
Cal23	12/23/22	224	\$ 52.90	\$ 13.52	\$ 1.15	34.4%	0.6%	3.0%	4.1%	12.4%	27.9%	-3.7%	-2.5%	34.4%	4.5%	4.9%
Cal24	12/22/23	475	\$ 47.99	\$ 12.14	\$ 0.71	23.5%	-0.1%	0.3%	1.9%	10.5%	25.1%	-1.9%	-1.5%	23.5%	3.5%	4.2%
Cal25	12/20/24	726	\$ 46.30	\$ 13.03	\$ 0.63	21.6%	0.0%	3.1%	1.3%	9.4%	20.1%	-0.7%	-0.6%	21.6%	1.0%	1.5%

Option Trade Recap



NG Term Structure																
Contract	Option Expiry	Trade Days to Expiry	Futures Price	ATM Straddle	Break-even	ATM Implied Volatility				Realized Volatility		Implied Volatility and Skew				
						Vol	1D Chg	1Wk Chg	1Mo Chg	Avg Hist	30 day	10d Put	25d Put	ATM	25d Call	10d Call
H22	2/23/22	12	\$ 4.572	\$ 0.58	\$ 0.190	66.1%	-11.0%	-25.4%	18.1%	43.1%	117.5%	-4.2%	-3.9%	66.1%	6.2%	15.8%
J22	3/28/22	35	\$ 4.492	\$ 0.71	\$ 0.147	51.8%	-5.4%	-7.7%	9.8%	35.6%	82.1%	-1.1%	-1.0%	51.8%	2.0%	5.9%
K22	4/26/22	55	\$ 4.511	\$ 0.83	\$ 0.138	48.5%	-3.9%	-1.8%	9.5%	35.2%	78.4%	-1.8%	-1.5%	48.5%	3.0%	7.4%
M22	5/25/22	76	\$ 4.554	\$ 0.97	\$ 0.137	47.9%	-2.9%	1.4%	10.6%	33.4%	76.3%	-3.0%	-2.3%	47.9%	3.5%	7.7%
N22	6/27/22	98	\$ 4.606	\$ 1.07	\$ 0.134	46.1%	-2.3%	1.8%	9.4%	31.7%	74.4%	-2.9%	-2.3%	46.1%	4.4%	9.1%
Q22	7/26/22	118	\$ 4.617	\$ 1.15	\$ 0.132	45.4%	-1.9%	1.6%	8.9%	31.1%	73.5%	-3.1%	-2.5%	45.4%	5.1%	10.7%
U22	8/26/22	141	\$ 4.598	\$ 1.26	\$ 0.133	45.8%	-2.1%	3.3%	9.3%	31.6%	73.4%	-3.7%	-3.0%	45.8%	6.5%	16.3%
V22	9/27/22	162	\$ 4.620	\$ 1.37	\$ 0.133	45.8%	-1.6%	2.3%	8.8%	32.4%	72.8%	-4.3%	-3.8%	45.8%	6.8%	15.4%
X22	10/26/22	183	\$ 4.705	\$ 1.48	\$ 0.137	46.1%	-2.2%	1.1%	7.9%	30.7%	69.9%	-1.5%	-2.0%	46.1%	7.5%	18.3%
Z22	11/25/22	204	\$ 4.873	\$ 1.67	\$ 0.146	47.7%	-2.2%	0.6%	6.8%	30.9%	66.3%	-5.7%	-4.4%	47.7%	9.2%	19.6%
F23	12/27/22	225	\$ 4.980	\$ 2.01	\$ 0.168	53.7%	-2.2%	4.0%	10.6%	33.9%	65.1%	-11.7%	-9.1%	53.7%	16.9%	34.1%
G23	1/26/23	245	\$ 4.831	\$ 2.16	\$ 0.173	56.7%	-1.7%	4.3%	11.5%	36.0%	63.8%	-11.8%	-9.2%	56.7%	18.3%	35.6%
H23	2/23/23	264	\$ 4.375	\$ 1.95	\$ 0.151	54.8%	-2.1%	2.3%	9.4%	35.3%	53.9%	-11.5%	-9.3%	54.8%	18.8%	22.2%
J23	3/28/23	287	\$ 3.395	\$ 0.88	\$ 0.065	30.3%	-1.9%	-2.1%	-0.3%	25.3%	27.4%	0.3%	-0.1%	30.3%	1.0%	2.2%
K23	4/25/23	306	\$ 3.321	\$ 0.78	\$ 0.056	26.6%	-2.0%	-3.6%	-2.3%	24.7%	24.4%	0.4%	0.0%	26.6%	1.0%	2.4%
M23	5/25/23	328	\$ 3.358	\$ 0.79	\$ 0.054	25.6%	-2.0%	-3.5%	-2.1%	24.2%	23.4%	0.4%	0.0%	25.6%	1.0%	2.3%
N23	6/27/23	350	\$ 3.404	\$ 0.81	\$ 0.054	25.2%	-2.0%	-3.5%	-2.0%	23.5%	22.6%	0.4%	0.0%	25.2%	1.0%	2.2%
Q23	7/26/23	370	\$ 3.419	\$ 0.83	\$ 0.054	25.1%	-2.0%	-3.6%	-1.9%	23.6%	21.8%	0.4%	0.0%	25.1%	1.0%	2.3%
U23	8/28/23	393	\$ 3.408	\$ 0.86	\$ 0.055	25.4%	-2.0%	-3.6%	-1.8%	24.3%	21.5%	0.3%	-0.1%	25.4%	1.0%	2.3%
V23	9/26/23	413	\$ 3.441	\$ 0.94	\$ 0.058	26.6%	-2.0%	-2.9%	-0.9%	25.1%	21.5%	0.4%	0.0%	26.6%	1.1%	2.4%
X23	10/26/23	435	\$ 3.554	\$ 1.08	\$ 0.066	29.3%	-2.0%	-2.3%	1.1%	23.9%	19.4%	1.1%	0.2%	29.3%	1.1%	2.9%
Z23	11/27/23	456	\$ 3.769	\$ 1.33	\$ 0.079	33.1%	-2.0%	-2.1%	1.3%	24.1%	17.2%	1.1%	0.2%	33.1%	1.2%	3.2%
F24	12/26/23	476	\$ 3.901	\$ 1.50	\$ 0.087	35.5%	-2.0%	-2.8%	-0.6%	25.7%	16.1%	-1.0%	-1.1%	35.5%	9.3%	14.2%