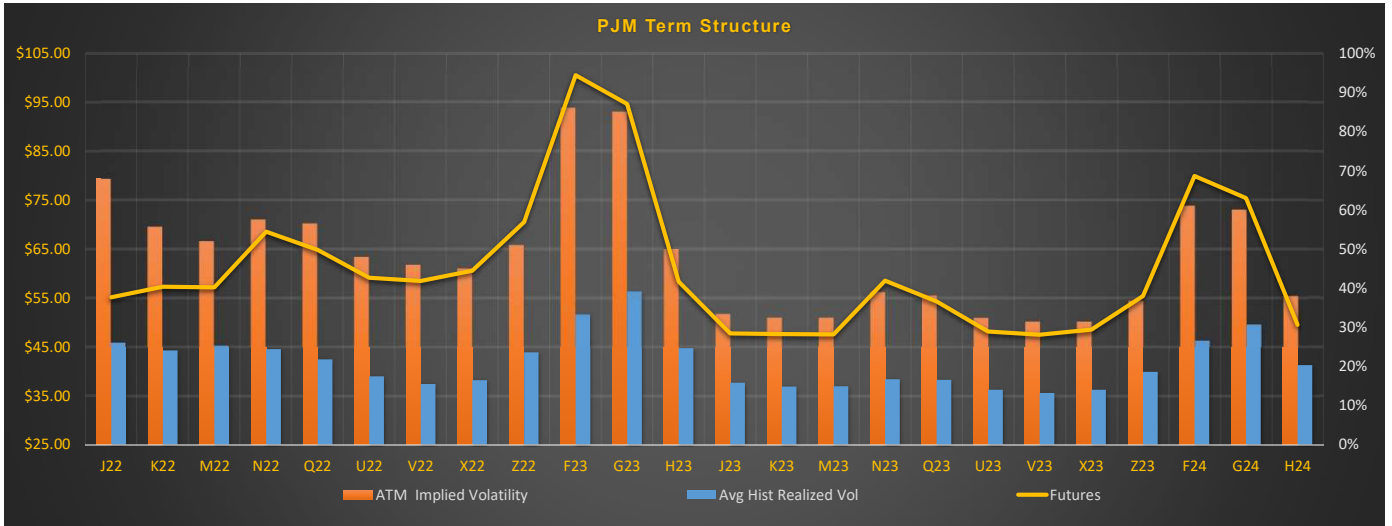


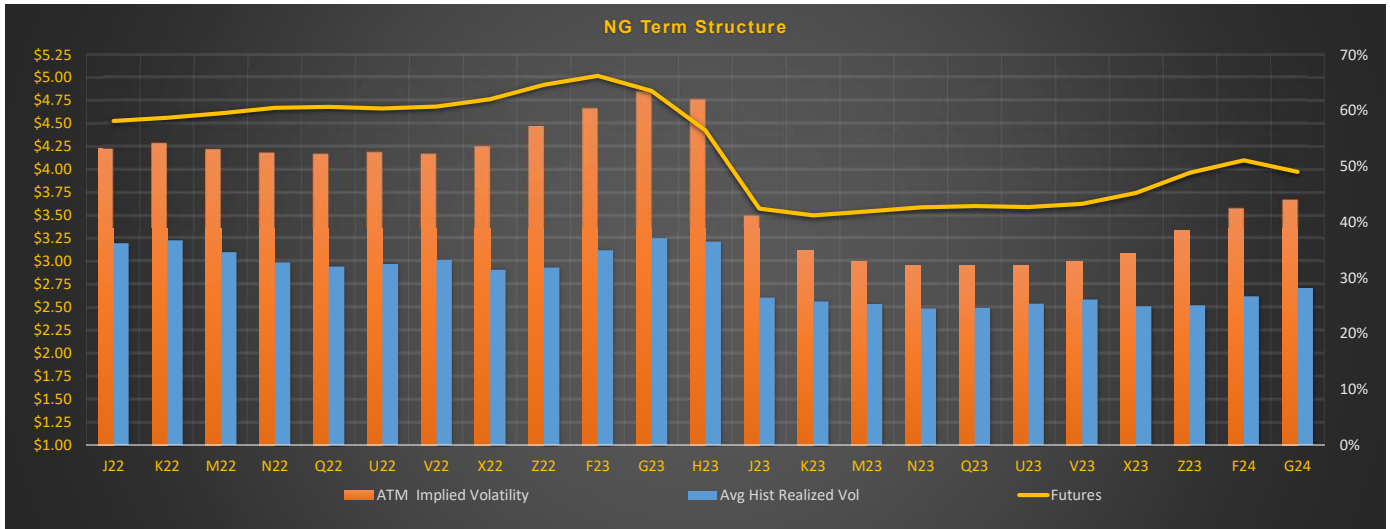
Date: 3/9/2022



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
J22	3/30/22	16	\$ 55.10	\$ 7.32	\$ 2.36	67.9%	2.0%	11.9%	12.9%	26.1%	45.6%	-8.6%	-5.1%	67.9%	6.3%	14.5%
K22	4/28/22	36	\$ 57.25	\$ 9.47	\$ 2.01	55.7%	2.7%	0.0%	9.7%	24.1%	42.7%	-5.7%	-2.9%	55.7%	6.3%	16.0%
M22	5/27/22	57	\$ 57.15	\$ 11.07	\$ 1.87	52.0%	-0.6%	4.2%	7.0%	25.3%	42.3%	-7.1%	-3.3%	52.0%	4.9%	18.1%
N22	6/29/22	79	\$ 68.55	\$ 17.43	\$ 2.48	57.5%	3.0%	5.8%	13.5%	24.4%	44.4%	-12.4%	-7.4%	57.5%	9.3%	18.9%
Q22	7/28/22	99	\$ 64.80	\$ 18.16	\$ 2.31	56.5%	3.5%	7.2%	14.6%	21.8%	42.7%	-11.2%	-6.4%	56.5%	9.6%	21.4%
U22	8/30/22	122	\$ 59.15	\$ 15.61	\$ 1.79	48.0%	-0.5%	4.4%	9.8%	17.5%	40.8%	-8.9%	-3.8%	48.0%	6.9%	13.3%
V22	9/29/22	143	\$ 58.45	\$ 16.01	\$ 1.69	46.0%	0.0%	8.0%	7.7%	15.5%	37.9%	-7.0%	-2.7%	46.0%	6.8%	13.4%
X22	10/28/22	164	\$ 60.55	\$ 17.31	\$ 1.72	45.0%	0.0%	7.0%	7.0%	16.5%	38.6%	-2.0%	-1.3%	45.0%	3.8%	13.5%
Z22	11/29/22	185	\$ 70.50	\$ 24.30	\$ 2.26	51.0%	0.0%	7.5%	8.0%	23.6%	45.0%	-2.8%	-1.8%	51.0%	7.5%	20.8%
F23	12/29/22	206	\$ 100.55	\$ 60.59	\$ 5.45	86.0%	1.0%	13.4%	16.5%	33.3%	53.8%	-9.3%	-6.0%	86.0%	25.3%	36.6%
G23	1/30/23	226	\$ 94.65	\$ 59.17	\$ 5.07	85.0%	1.0%	12.5%	15.4%	39.1%	53.7%	-9.2%	-5.9%	85.0%	26.1%	37.8%
H23	2/27/23	245	\$ 58.35	\$ 22.81	\$ 1.84	50.0%	-0.1%	4.5%	7.0%	24.7%	30.8%	-4.6%	-2.7%	50.0%	9.5%	24.7%
J23	3/30/23	268	\$ 47.75	\$ 13.01	\$ 1.00	33.4%	0.0%	1.4%	6.4%	15.8%	27.4%	-5.0%	-3.2%	33.4%	4.9%	9.1%
K23	4/27/23	287	\$ 47.60	\$ 13.08	\$ 0.97	32.5%	-0.1%	1.5%	6.5%	14.8%	35.7%	-3.8%	-2.4%	32.5%	4.2%	9.5%
M23	5/30/23	309	\$ 47.55	\$ 13.57	\$ 0.97	32.5%	0.0%	1.5%	6.5%	14.9%	35.4%	-4.0%	-2.6%	32.5%	5.0%	10.0%
N23	6/29/23	331	\$ 58.50	\$ 20.66	\$ 1.44	39.0%	0.1%	2.0%	10.0%	16.7%	24.7%	-6.8%	-4.5%	39.0%	6.7%	25.4%
Q23	7/28/23	351	\$ 54.30	\$ 19.32	\$ 1.30	38.1%	0.1%	3.0%	9.7%	16.6%	24.7%	-7.5%	-5.8%	38.1%	6.5%	20.9%
U23	8/30/23	374	\$ 48.15	\$ 15.03	\$ 0.98	32.4%	-0.1%	1.3%	6.4%	14.0%	35.4%	-5.4%	-3.7%	32.4%	6.7%	12.0%
V23	9/28/23	394	\$ 47.50	\$ 14.82	\$ 0.94	31.5%	0.1%	1.5%	6.5%	13.2%	24.5%	-4.9%	-3.5%	31.5%	6.1%	10.9%
X23	10/30/23	416	\$ 48.50	\$ 15.54	\$ 0.96	31.5%	0.0%	1.5%	7.5%	14.0%	25.6%	-0.7%	-0.5%	31.5%	6.7%	10.4%
Z23	11/29/23	437	\$ 55.40	\$ 21.18	\$ 1.28	36.8%	0.1%	3.8%	7.8%	18.6%	27.1%	-0.9%	-0.6%	36.8%	8.0%	15.5%
F24	12/28/23	457	\$ 79.90	\$ 50.90	\$ 3.07	61.0%	0.0%	3.0%	8.0%	26.7%	#N/A	-0.8%	-0.9%	61.0%	17.2%	21.1%
G24	1/30/24	478	\$ 75.40	\$ 48.40	\$ 2.85	60.0%	0.0%	3.0%	8.0%	30.8%	#N/A	-0.8%	-0.9%	60.0%	17.3%	21.2%
H24	2/28/24	498	\$ 49.55	\$ 20.87	\$ 1.19	38.0%	0.0%	1.5%	3.0%	20.4%	#N/A	-0.7%	-0.6%	38.0%	5.0%	8.3%

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	203	\$ 58.85	\$ 15.99	\$ 1.43	38.7%	-1.6%	3.6%	5.4%	12.7%	28.7%	-3.5%	-2.7%	38.7%	4.6%	7.1%
Cal24	12/22/23	454	\$ 52.80	\$ 16.08	\$ 0.97	29.2%	0.1%	3.4%	6.1%	10.6%	25.8%	-3.3%	-2.8%	29.2%	3.1%	5.6%
Cal25	12/20/24	705	\$ 51.09	\$ 15.89	\$ 0.79	24.4%	0.0%	3.0%	2.8%	9.5%	20.6%	-0.6%	-0.6%	24.4%	1.7%	3.4%

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
J22	3/28/22	14	\$ 4.527	\$ 0.46	\$ 0.151	53.1%	-0.5%	1.2%	3.3%	36.2%	61.6%	-1.4%	-1.7%	53.1%	4.3%	9.4%
K22	4/26/22	34	\$ 4.563	\$ 0.73	\$ 0.156	54.1%	1.2%	3.1%	7.8%	36.7%	61.0%	-2.6%	-2.7%	54.1%	4.6%	10.4%
M22	5/25/22	55	\$ 4.611	\$ 0.90	\$ 0.154	53.0%	1.3%	2.5%	7.2%	34.6%	59.9%	-2.6%	-2.6%	53.0%	5.8%	11.8%
N22	6/27/22	77	\$ 4.670	\$ 1.08	\$ 0.154	52.4%	1.4%	2.5%	7.8%	32.7%	58.5%	-4.5%	-3.5%	52.4%	5.7%	11.7%
Q22	7/26/22	97	\$ 4.681	\$ 1.21	\$ 0.154	52.2%	1.5%	2.0%	7.8%	32.0%	58.1%	-4.0%	-3.1%	52.2%	6.0%	12.1%
U22	8/26/22	120	\$ 4.665	\$ 1.34	\$ 0.154	52.5%	1.8%	2.4%	7.9%	32.4%	57.8%	-3.5%	-2.8%	52.5%	5.9%	12.0%
V22	9/27/22	141	\$ 4.683	\$ 1.45	\$ 0.154	52.2%	0.9%	1.0%	8.1%	33.2%	57.4%	-2.9%	-2.7%	52.2%	6.6%	13.3%
X22	10/26/22	162	\$ 4.766	\$ 1.62	\$ 0.161	53.5%	1.2%	3.1%	9.6%	31.5%	55.4%	-4.7%	-3.6%	53.5%	8.6%	18.7%
Z22	11/25/22	183	\$ 4.921	\$ 1.88	\$ 0.177	57.1%	0.7%	4.2%	11.2%	31.8%	52.6%	-6.5%	-4.6%	57.1%	12.0%	22.9%
F23	12/27/22	204	\$ 5.018	\$ 2.14	\$ 0.191	60.3%	0.7%	3.4%	7.6%	34.9%	51.2%	-7.4%	-6.0%	60.3%	15.4%	0.5%
G23	1/26/23	224	\$ 4.853	\$ 2.29	\$ 0.194	63.3%	1.2%	4.7%	8.5%	37.1%	50.7%	-8.0%	-6.4%	63.3%	16.2%	-1.5%
H23	2/23/23	243	\$ 4.429	\$ 2.11	\$ 0.173	61.9%	0.8%	3.8%	10.0%	36.5%	50.4%	-7.8%	-6.1%	61.9%	19.7%	33.2%
J23	3/28/23	266	\$ 3.573	\$ 1.20	\$ 0.093	41.2%	1.0%	6.1%	8.7%	26.4%	33.3%	1.9%	0.4%	41.2%	2.4%	6.5%
K23	4/25/23	285	\$ 3.502	\$ 1.03	\$ 0.077	34.9%	1.0%	4.4%	6.7%	25.8%	30.1%	2.0%	0.4%	34.9%	2.0%	6.2%
M23	5/25/23	307	\$ 3.542	\$ 1.02	\$ 0.073	32.9%	1.0%	4.0%	6.0%	25.3%	28.7%	2.0%	0.3%	32.9%	2.0%	5.9%
N23	6/27/23	329	\$ 3.587	\$ 1.05	\$ 0.073	32.2%	1.1%	4.0%	5.9%	24.5%	27.5%	1.9%	0.3%	32.2%	2.0%	6.0%
Q23	7/26/23	349	\$ 3.602	\$ 1.08	\$ 0.073	32.1%	1.0%	4.0%	5.8%	24.6%	26.8%	2.0%	0.3%	32.1%	2.0%	6.0%
U23	8/28/23	372	\$ 3.592	\$ 1.12	\$ 0.073	32.2%	1.0%	3.9%	5.6%	25.3%	26.4%	1.9%	0.3%	32.2%	2.1%	6.2%
V23	9/26/23	392	\$ 3.627	\$ 1.18	\$ 0.075	33.0%	1.0%	4.1%	5.2%	26.1%	25.9%	1.9%	0.3%	33.0%	2.2%	6.3%
X23	10/26/23	414	\$ 3.745	\$ 1.30	\$ 0.081	34.4%	1.0%	3.9%	4.0%	24.9%	23.8%	0.8%	0.0%	34.4%	2.4%	6.3%
Z23	11/27/23	435	\$ 3.963	\$ 1.59	\$ 0.096	38.5%	1.0%	3.6%	4.8%	25.0%	21.6%	0.8%	0.0%	38.5%	2.5%	6.4%
F24	12/26/23	455	\$ 4.099	\$ 1.84	\$ 0.110	42.5%	1.1%	5.2%	5.1%	26.7%	20.2%	-2.7%	-2.4%	42.5%	7.0%	7.7%
G24	1/26/24	476	\$ 3.973	\$ 1.90	\$ 0.110	44.0%	1.0%	4.8%	4.5%	28.1%	20.3%	-2.7%	-2.4%	44.0%	6.5%	7.2%