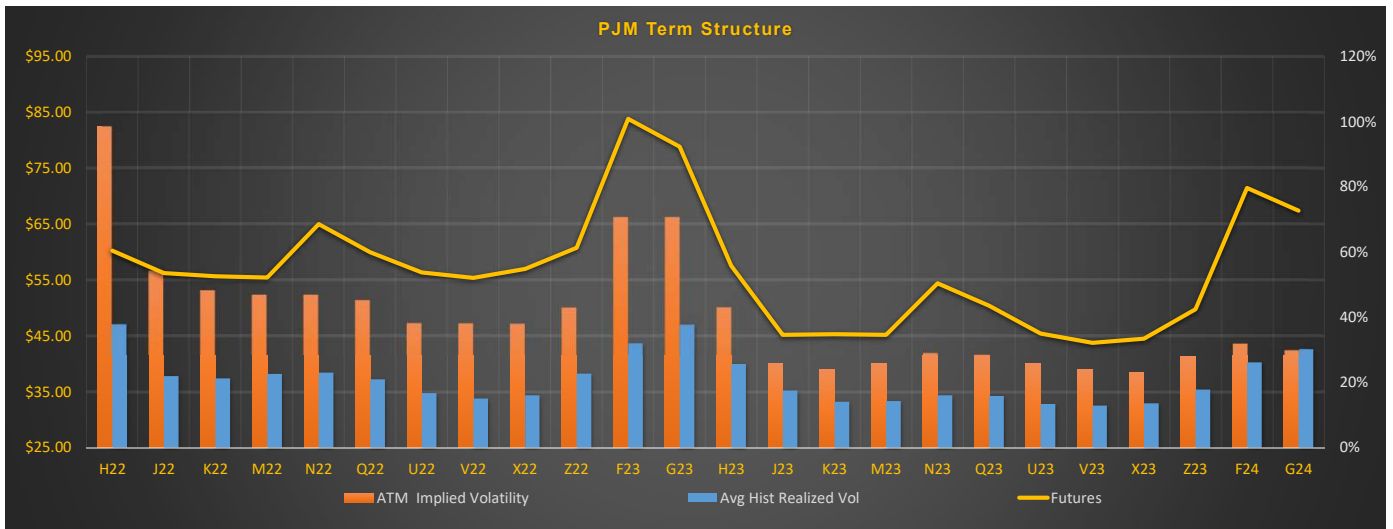


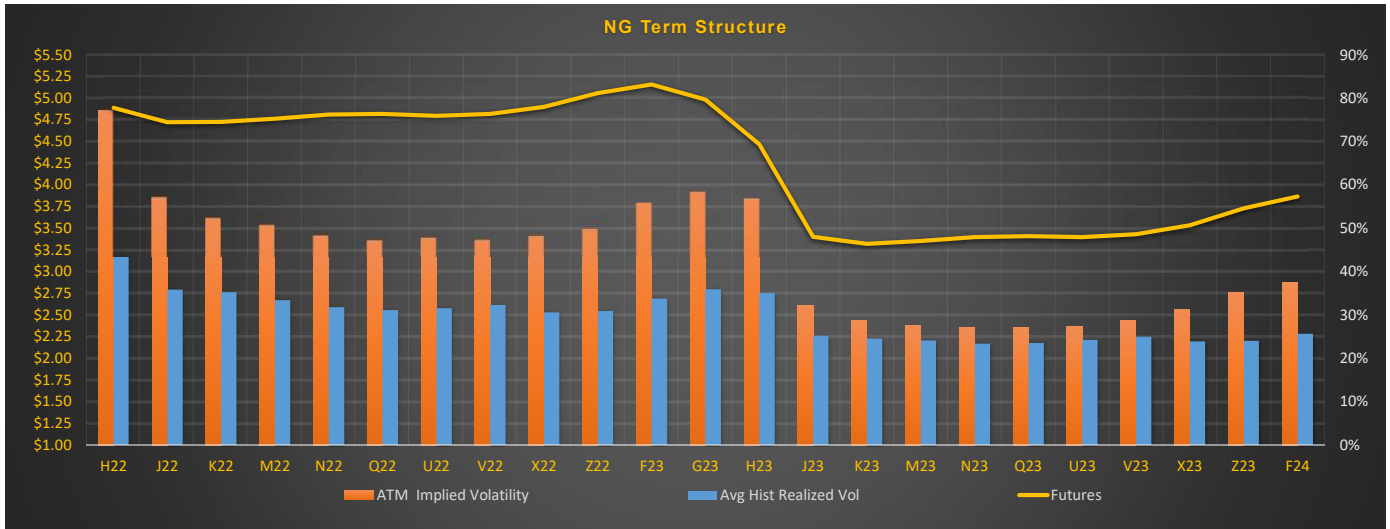
Date: 2/4/2022



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	15	\$ 60.25	\$ 11.57	\$ 3.73	98.4%	-5.8%	19.1%	23.4%	37.9%	68.9%	-10.6%	-4.1%	98.4%	6.1%	15.2%
J22	3/30/22	38	\$ 56.25	\$ 9.41	\$ 1.92	54.2%	0.0%	0.0%	12.8%	21.9%	39.4%	-1.7%	-0.9%	54.2%	1.5%	2.8%
K22	4/28/22	58	\$ 55.65	\$ 10.23	\$ 1.69	48.2%	-0.8%	5.1%	7.8%	21.2%	36.1%	-1.7%	-0.9%	48.2%	1.2%	1.3%
M22	5/27/22	79	\$ 55.45	\$ 11.51	\$ 1.64	46.9%	-1.0%	5.0%	6.3%	22.6%	37.4%	-1.9%	-1.2%	46.9%	3.0%	9.0%
N22	6/29/22	101	\$ 65.00	\$ 15.34	\$ 1.92	46.9%	-1.1%	6.7%	5.9%	23.0%	43.1%	-6.5%	-3.6%	46.9%	4.0%	10.0%
Q22	7/28/22	121	\$ 59.95	\$ 14.91	\$ 1.71	45.2%	-1.0%	6.4%	6.2%	20.9%	41.9%	-5.0%	-3.5%	45.2%	2.7%	9.2%
U22	8/30/22	144	\$ 56.35	\$ 12.93	\$ 1.36	38.2%	-1.0%	1.7%	-1.8%	16.7%	36.0%	-3.9%	-3.4%	38.2%	3.2%	1.6%
V22	9/29/22	165	\$ 55.35	\$ 13.53	\$ 1.33	38.1%	0.2%	3.0%	-0.9%	15.0%	33.0%	-3.0%	-2.7%	38.1%	3.7%	4.8%
X22	10/28/22	186	\$ 56.95	\$ 14.71	\$ 1.36	38.0%	0.0%	4.4%	-1.0%	16.1%	33.4%	-1.6%	-1.2%	38.0%	3.7%	10.1%
Z22	11/29/22	207	\$ 60.75	\$ 18.67	\$ 1.64	42.9%	0.2%	4.0%	0.9%	22.7%	34.9%	-1.9%	-1.7%	42.9%	6.9%	20.4%
F23	12/29/22	228	\$ 83.85	\$ 44.05	\$ 3.73	70.6%	0.0%	5.5%	9.6%	32.0%	55.7%	-5.2%	-3.0%	70.6%	19.9%	25.0%
G23	1/30/23	248	\$ 78.85	\$ 43.31	\$ 3.51	70.6%	0.1%	7.1%	12.6%	37.7%	55.5%	-3.0%	-1.8%	70.6%	18.6%	23.0%
H23	2/27/23	267	\$ 57.55	\$ 20.21	\$ 1.56	43.0%	0.0%	1.0%	3.0%	25.7%	33.7%	-0.6%	-0.4%	43.0%	4.2%	8.6%
J23	3/30/23	290	\$ 45.15	\$ 9.99	\$ 0.74	26.0%	0.0%	1.8%	1.8%	17.5%	21.6%	-0.9%	-0.6%	26.0%	1.6%	4.0%
K23	4/27/23	309	\$ 45.30	\$ 9.62	\$ 0.68	24.0%	0.0%	0.8%	0.8%	14.1%	20.6%	-1.0%	-0.6%	24.0%	1.6%	3.9%
M23	5/30/23	331	\$ 45.15	\$ 10.69	\$ 0.74	26.0%	0.0%	1.8%	1.8%	14.3%	21.1%	-1.0%	-0.6%	26.0%	1.8%	2.8%
N23	6/29/23	353	\$ 54.40	\$ 14.84	\$ 0.99	29.0%	0.0%	1.0%	1.0%	16.0%	23.9%	-1.7%	-1.3%	29.0%	2.6%	4.3%
Q23	7/28/23	373	\$ 50.40	\$ 13.90	\$ 0.90	28.5%	0.0%	1.7%	1.6%	15.9%	23.6%	-1.4%	-0.9%	28.5%	2.9%	5.1%
U23	8/30/23	396	\$ 45.40	\$ 11.76	\$ 0.74	26.0%	0.0%	2.0%	2.0%	13.4%	21.2%	-1.4%	-0.9%	26.0%	2.7%	3.8%
V23	9/28/23	416	\$ 43.75	\$ 10.67	\$ 0.66	24.0%	0.0%	1.0%	1.0%	12.9%	18.5%	-1.0%	-0.7%	24.0%	2.1%	3.7%
X23	10/30/23	438	\$ 44.50	\$ 10.72	\$ 0.64	23.0%	0.0%	2.0%	2.0%	13.6%	19.1%	-0.8%	-0.5%	23.0%	0.7%	1.0%
Z23	11/29/23	459	\$ 49.75	\$ 14.85	\$ 0.88	28.0%	0.0%	1.0%	1.0%	17.8%	21.4%	-1.1%	-0.5%	28.0%	0.7%	1.0%
F24	12/28/23	479	\$ 71.45	\$ 24.89	\$ 1.44	31.9%	0.0%	0.0%	0.0%	26.2%	#N/A	-1.4%	-0.7%	31.9%	0.8%	1.9%
G24	1/30/24	500	\$ 67.40	\$ 22.56	\$ 1.27	29.9%	0.0%	0.0%	0.0%	30.2%	#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	225	\$ 53.55	\$ 13.52	\$ 1.14	33.8%	-1.8%	4.4%	3.5%	12.3%	27.6%	-3.6%	-2.4%	33.8%	2.1%	2.7%
Cal24	12/22/23	476	\$ 48.20	\$ 12.18	\$ 0.71	23.5%	0.0%	0.9%	2.2%	10.5%	24.8%	-1.9%	-1.5%	23.5%	3.4%	4.1%
Cal25	12/20/24	727	\$ 46.35	\$ 13.08	\$ 0.63	21.6%	0.0%	1.4%	1.4%	9.4%	19.9%	-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	13	\$ 4.888	\$ 0.72	\$ 0.237	77.1%	-15.4%	12.1%	31.9%	43.5%	114.1%	-10.0%	-7.5%	77.1%	9.9%	20.6%
J22	3/28/22	36	\$ 4.720	\$ 0.84	\$ 0.170	57.2%	-7.5%	5.4%	16.1%	35.8%	79.4%	-4.0%	-2.9%	57.2%	4.4%	11.1%
K22	4/26/22	56	\$ 4.725	\$ 0.95	\$ 0.156	52.4%	-4.4%	6.8%	14.1%	35.3%	75.7%	-4.2%	-3.2%	52.4%	4.8%	11.3%
M22	5/25/22	77	\$ 4.762	\$ 1.07	\$ 0.152	50.8%	-2.5%	6.7%	14.0%	33.4%	73.8%	-4.0%	-3.1%	50.8%	5.2%	11.0%
N22	6/27/22	99	\$ 4.810	\$ 1.17	\$ 0.147	48.4%	-2.3%	6.0%	12.1%	31.7%	71.9%	-3.9%	-3.0%	48.4%	5.7%	12.1%
Q22	7/26/22	119	\$ 4.815	\$ 1.25	\$ 0.143	47.3%	-2.4%	4.9%	11.2%	31.1%	71.2%	-3.5%	-2.8%	47.3%	6.4%	13.7%
U22	8/26/22	142	\$ 4.794	\$ 1.37	\$ 0.145	47.9%	-1.9%	6.2%	11.8%	31.6%	71.1%	-3.8%	-3.1%	47.9%	6.7%	16.2%
V22	9/27/22	163	\$ 4.816	\$ 1.46	\$ 0.144	47.4%	-2.7%	5.4%	10.9%	32.3%	70.5%	-3.9%	-3.4%	47.4%	7.5%	16.0%
X22	10/26/22	184	\$ 4.896	\$ 1.60	\$ 0.149	48.3%	-3.6%	5.3%	10.5%	30.6%	67.7%	-1.8%	-2.2%	48.3%	7.7%	18.5%
Z22	11/25/22	205	\$ 5.055	\$ 1.81	\$ 0.159	49.9%	-4.3%	5.1%	9.4%	30.9%	64.3%	-5.9%	-4.6%	49.9%	9.3%	19.6%
F23	12/27/22	226	\$ 5.156	\$ 2.17	\$ 0.182	55.9%	-0.7%	7.2%	13.1%	33.8%	63.3%	-11.9%	-9.3%	55.9%	17.2%	34.7%
G23	1/26/23	246	\$ 4.981	\$ 2.28	\$ 0.183	58.4%	-3.9%	8.2%	13.7%	35.9%	62.5%	-11.5%	-8.9%	58.4%	19.3%	36.6%
H23	2/23/23	265	\$ 4.467	\$ 2.07	\$ 0.160	56.9%	-7.5%	5.6%	12.0%	35.1%	53.3%	-11.5%	-9.3%	56.9%	18.8%	22.2%
J23	3/28/23	288	\$ 3.401	\$ 0.94	\$ 0.069	32.2%	-6.7%	0.5%	2.2%	25.2%	27.4%	0.3%	0.0%	32.2%	1.1%	2.4%
K23	4/25/23	307	\$ 3.319	\$ 0.84	\$ 0.060	28.6%	-6.2%	-1.0%	0.1%	24.6%	24.5%	0.3%	0.0%	28.6%	1.0%	2.4%
M23	5/25/23	329	\$ 3.353	\$ 0.85	\$ 0.058	27.6%	-6.4%	-0.8%	0.3%	24.1%	23.5%	0.3%	0.0%	27.6%	1.0%	2.3%
N23	6/27/23	351	\$ 3.396	\$ 0.87	\$ 0.058	27.2%	-6.3%	-0.7%	0.5%	23.4%	22.6%	0.3%	0.0%	27.2%	1.0%	2.2%
Q23	7/26/23	371	\$ 3.407	\$ 0.89	\$ 0.058	27.1%	-6.3%	-0.7%	0.6%	23.5%	21.9%	0.3%	0.0%	27.1%	1.1%	2.3%
U23	8/28/23	394	\$ 3.397	\$ 0.93	\$ 0.059	27.4%	-6.2%	-0.7%	0.7%	24.2%	21.5%	0.4%	-0.1%	27.4%	1.0%	2.3%
V23	9/26/23	414	\$ 3.429	\$ 1.00	\$ 0.062	28.6%	-6.2%	0.0%	1.5%	25.0%	21.5%	0.4%	-0.1%	28.6%	1.1%	2.4%
X23	10/26/23	436	\$ 3.531	\$ 1.15	\$ 0.070	31.3%	-6.2%	0.5%	3.4%	23.9%	19.2%	1.0%	0.3%	31.3%	1.2%	3.1%
Z23	11/27/23	457	\$ 3.727	\$ 1.39	\$ 0.082	35.1%	-5.6%	0.7%	3.7%	24.0%	16.8%	1.0%	0.2%	35.1%	1.3%	3.3%
F24	12/26/23	477	\$ 3.865	\$ 1.58	\$ 0.091	37.5%	-7.3%	-0.5%	1.8%	25.6%	15.9%	-1.0%	-1.1%	37.5%	9.5%	14.5%