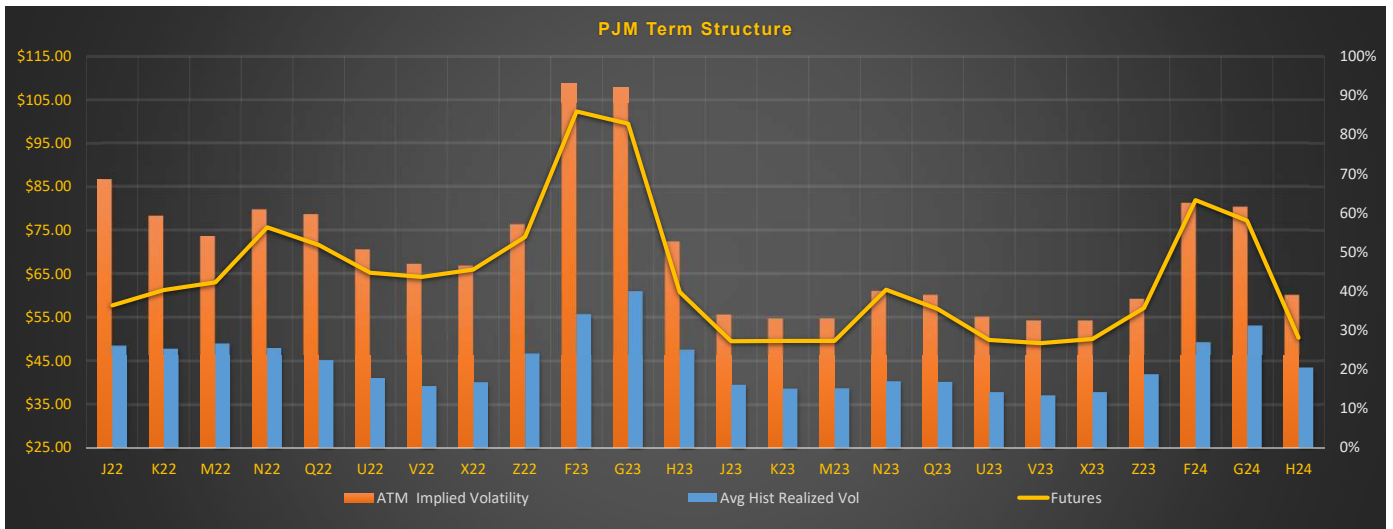


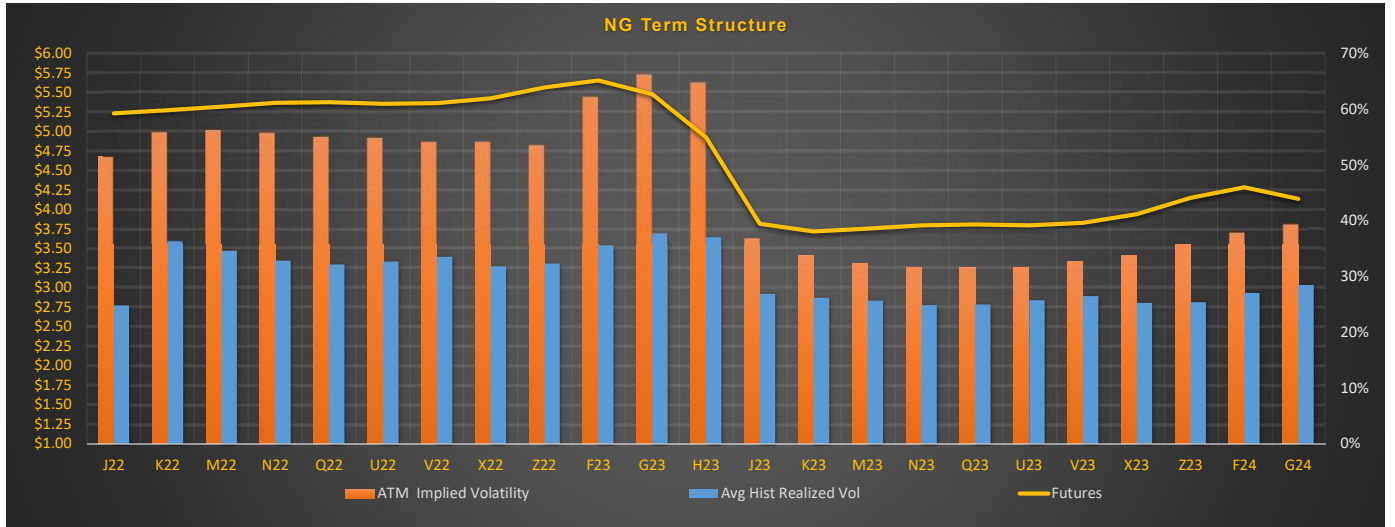
Date: 3/24/2022



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	5	\$ 57.75	\$ 4.37	\$ 2.49	68.5%	2.1%	4.0%	8.0%	26.1%	39.2%	-10.3%	-6.8%	68.5%	4.4%	5.6%
K22	4/28/22	25	\$ 61.25	\$ 9.05	\$ 2.28	59.2%	0.0%	0.0%	11.6%	25.3%	36.5%	-7.5%	-4.7%	59.2%	6.5%	10.7%
M22	5/27/22	46	\$ 63.00	\$ 11.42	\$ 2.14	54.0%	1.8%	1.1%	7.4%	26.6%	36.2%	-6.2%	-3.2%	54.0%	7.7%	15.7%
N22	6/29/22	68	\$ 75.65	\$ 18.91	\$ 2.90	60.8%	-0.2%	2.9%	11.7%	25.5%	36.0%	-11.7%	-6.5%	60.8%	8.3%	13.8%
Q22	7/28/22	88	\$ 71.65	\$ 19.99	\$ 2.69	59.6%	-0.1%	2.7%	12.2%	22.4%	34.8%	-9.9%	-5.5%	59.6%	9.3%	20.1%
U22	8/30/22	111	\$ 65.25	\$ 17.33	\$ 2.08	50.6%	-0.1%	2.6%	7.8%	17.8%	34.1%	-8.8%	-3.4%	50.6%	6.2%	20.1%
V22	9/29/22	132	\$ 64.25	\$ 17.23	\$ 1.90	46.9%	1.3%	1.9%	8.4%	15.8%	31.8%	-7.7%	-3.8%	46.9%	8.9%	17.2%
X22	10/28/22	153	\$ 66.00	\$ 18.86	\$ 1.93	46.5%	0.9%	1.5%	8.5%	16.7%	32.7%	-5.3%	-2.9%	46.5%	3.5%	8.8%
Z22	11/29/22	174	\$ 73.50	\$ 27.46	\$ 2.64	57.0%	1.4%	4.0%	13.5%	24.1%	38.3%	-10.1%	-4.1%	57.0%	1.4%	1.5%
F23	12/29/22	195	\$ 102.35	\$ 64.91	\$ 6.00	93.0%	0.0%	5.5%	20.0%	34.1%	47.5%	-11.6%	-7.4%	93.0%	23.3%	34.6%
G23	1/30/23	215	\$ 99.55	\$ 65.65	\$ 5.77	92.0%	0.0%	5.5%	19.0%	40.0%	49.8%	-11.4%	-7.2%	92.0%	24.1%	-92.0%
H23	2/27/23	234	\$ 60.80	\$ 24.42	\$ 2.01	52.6%	0.2%	2.6%	7.6%	25.1%	25.3%	-4.7%	-2.8%	52.6%	9.8%	24.7%
J23	3/30/23	257	\$ 49.50	\$ 13.50	\$ 1.06	34.0%	-0.1%	0.5%	4.0%	16.1%	22.8%	-5.2%	-3.3%	34.0%	4.7%	9.0%
K23	4/27/23	276	\$ 49.55	\$ 13.57	\$ 1.03	33.0%	0.0%	0.5%	4.0%	15.1%	33.4%	-3.8%	-2.4%	33.0%	4.3%	9.4%
M23	5/30/23	298	\$ 49.55	\$ 14.13	\$ 1.03	33.0%	0.0%	0.5%	4.0%	15.2%	33.9%	-4.0%	-2.6%	33.0%	5.0%	10.0%
N23	6/29/23	320	\$ 61.35	\$ 21.91	\$ 1.55	40.0%	0.1%	1.0%	5.0%	17.0%	19.7%	-5.6%	-3.9%	40.0%	6.8%	25.3%
Q23	7/28/23	340	\$ 56.90	\$ 20.42	\$ 1.40	39.0%	0.1%	1.1%	6.0%	16.8%	19.8%	-5.5%	-3.9%	39.0%	6.8%	25.5%
U23	8/30/23	363	\$ 49.75	\$ 15.75	\$ 1.05	33.4%	0.0%	1.0%	4.3%	14.2%	34.2%	-5.2%	-3.7%	33.4%	6.9%	11.7%
V23	9/28/23	383	\$ 49.00	\$ 15.56	\$ 1.00	32.5%	0.0%	1.0%	4.4%	13.3%	22.0%	-4.9%	-3.5%	32.5%	6.2%	10.9%
X23	10/30/23	405	\$ 50.00	\$ 16.32	\$ 1.02	32.5%	0.0%	1.0%	4.5%	14.2%	22.5%	-4.1%	-2.9%	32.5%	6.5%	10.4%
Z23	11/29/23	426	\$ 57.10	\$ 22.24	\$ 1.37	38.0%	0.0%	1.2%	7.5%	18.8%	23.2%	-1.2%	-0.5%	38.0%	8.3%	15.6%
F24	12/28/23	446	\$ 81.90	\$ 52.82	\$ 3.22	62.5%	-0.5%	1.5%	5.5%	27.0%	#N/A	-2.4%	-1.4%	62.5%	17.2%	21.1%
G24	1/30/24	467	\$ 77.25	\$ 50.09	\$ 2.99	61.5%	-0.5%	1.5%	5.5%	31.2%	#N/A	-2.4%	-1.4%	61.5%	17.3%	21.2%
H24	2/28/24	487	\$ 50.25	\$ 21.43	\$ 1.23	39.0%	0.0%	1.0%	3.0%	20.5%	#N/A	-1.7%	-0.8%	39.0%	5.1%	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	192	\$ 61.06	\$ 16.79	\$ 1.55	40.4%	0.2%	1.4%	5.3%	12.9%	24.6%	-4.3%	-3.2%	40.4%	4.7%	7.7%
Cal24	12/22/23	443	\$ 53.39	\$ 15.84	\$ 0.98	29.0%	0.1%	0.5%	4.0%	10.7%	22.2%	-2.5%	-1.7%	29.0%	4.3%	6.8%
Cal25	12/20/24	694	\$ 51.69	\$ 16.18	\$ 0.81	25.0%	0.2%	0.7%	2.7%	9.6%	17.7%	-1.6%	-1.1%	25.0%	4.0%	5.8%

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	3	\$ 5.232	\$ 0.28	\$ 0.169	51.4%	0.0%	5.5%	-3.4%	24.8%	49.0%	-1.3%	-1.7%	51.4%	2.5%	4.8%
K22	4/26/22	23	\$ 5.274	\$ 0.73	\$ 0.185	55.8%	1.6%	5.8%	4.6%	36.4%	47.9%	-3.5%	-3.0%	55.8%	4.1%	9.3%
M22	5/25/22	44	\$ 5.316	\$ 0.99	\$ 0.188	56.2%	0.4%	5.9%	7.3%	34.6%	47.0%	-4.0%	-3.4%	56.2%	5.1%	9.6%
N22	6/27/22	66	\$ 5.366	\$ 1.23	\$ 0.188	55.7%	0.7%	5.1%	7.5%	32.8%	46.0%	-5.5%	-3.9%	55.7%	4.4%	8.8%
Q22	7/26/22	86	\$ 5.371	\$ 1.38	\$ 0.186	55.0%	0.5%	4.1%	7.0%	32.1%	45.7%	-5.7%	-4.1%	55.0%	4.7%	9.4%
U22	8/26/22	109	\$ 5.350	\$ 1.52	\$ 0.185	54.8%	0.2%	3.6%	7.7%	32.7%	45.7%	-4.8%	-3.3%	54.8%	5.5%	10.7%
V22	9/27/22	130	\$ 5.362	\$ 1.64	\$ 0.183	54.1%	0.0%	2.8%	7.2%	33.5%	45.4%	-4.6%	-3.4%	54.1%	6.2%	12.1%
X22	10/26/22	151	\$ 5.423	\$ 1.79	\$ 0.185	54.1%	0.4%	2.6%	5.2%	31.8%	44.0%	-3.9%	-3.2%	54.1%	7.7%	16.4%
Z22	11/25/22	172	\$ 5.562	\$ 1.93	\$ 0.187	53.5%	-0.9%	-0.6%	2.2%	32.3%	42.4%	-6.2%	-4.7%	53.5%	11.4%	26.9%
F23	12/27/22	193	\$ 5.653	\$ 2.41	\$ 0.221	62.1%	2.6%	3.0%	7.1%	35.6%	41.5%	-9.2%	-7.0%	62.1%	15.7%	28.1%
G23	1/26/23	213	\$ 5.474	\$ 2.62	\$ 0.228	66.1%	1.8%	4.1%	6.3%	37.8%	41.0%	-10.5%	-8.3%	66.1%	18.5%	30.6%
H23	2/23/23	232	\$ 4.925	\$ 2.40	\$ 0.201	64.7%	-1.1%	4.3%	8.3%	37.1%	36.1%	-9.0%	-7.1%	64.7%	20.4%	34.0%
J23	3/28/23	255	\$ 3.817	\$ 1.12	\$ 0.089	36.9%	0.7%	-0.5%	-0.4%	26.9%	18.9%	0.8%	0.1%	36.9%	1.2%	3.6%
K23	4/25/23	274	\$ 3.717	\$ 1.04	\$ 0.079	33.8%	0.8%	-0.4%	1.0%	26.2%	17.5%	0.8%	0.1%	33.8%	1.2%	3.5%
M23	5/25/23	296	\$ 3.753	\$ 1.03	\$ 0.076	32.3%	1.0%	-0.3%	1.1%	25.7%	16.9%	0.8%	0.1%	32.3%	1.1%	3.6%
N23	6/27/23	318	\$ 3.797	\$ 1.08	\$ 0.076	31.7%	1.0%	-0.1%	1.2%	24.9%	16.4%	0.8%	0.1%	31.7%	1.2%	3.6%
Q23	7/26/23	338	\$ 3.809	\$ 1.10	\$ 0.076	31.5%	1.0%	-0.2%	1.0%	25.0%	15.9%	0.9%	0.1%	31.5%	1.2%	3.6%
U23	8/28/23	361	\$ 3.796	\$ 1.14	\$ 0.076	31.7%	0.9%	-0.1%	0.9%	25.7%	15.7%	0.9%	0.2%	31.7%	1.3%	3.8%
V23	9/26/23	381	\$ 3.828	\$ 1.21	\$ 0.079	32.6%	0.9%	-0.1%	1.2%	26.5%	15.2%	0.8%	0.1%	32.6%	1.3%	3.9%
X23	10/26/23	403	\$ 3.938	\$ 1.33	\$ 0.084	33.8%	0.3%	-0.5%	0.2%	25.3%	14.3%	1.0%	0.1%	33.8%	2.2%	7.3%
Z23	11/27/23	424	\$ 4.146	\$ 1.51	\$ 0.093	35.7%	0.0%	-0.9%	-2.7%	25.4%	13.2%	0.9%	0.1%	35.7%	2.4%	8.0%
F24	12/26/23	444	\$ 4.281	\$ 1.71	\$ 0.102	37.9%	-0.1%	-0.7%	-4.9%	27.1%	12.8%	-3.3%	-2.9%	37.9%	6.6%	7.0%
G24	1/26/24	465	\$ 4.134	\$ 1.77	\$ 0.103	39.4%	0.1%	-0.6%	-5.1%	28.5%	13.9%	-3.3%	-2.9%	39.4%	6.4%	6.8%

