

ENERGY MARKET MONTHLY REPORT

July 2021

Market Commentary

By Luke Nemes, Director, Energy Procurement & Market Intelligence

*"Nothing happens until something moves...Everything is connected."
-Albert Einstein*

Newton's first law of motion, often referred to as the law of inertia, is a principle starting point and the fundamental assumption of classical mechanics.

An object at rest stays at rest and an object in motion stays in motion with the same speed and in the same direction unless acted upon by an unbalanced force.

Galileo actually first began to explore this principle from a humanistic perspective in his attempts to explain how, if the Earth is rotating on its axis (it is), why we do not sense the motion of the Earth. Inertia provides the answer – we are in motion together with the Earth, and since we retain that motion, the Earth appears to be at rest (it isn't). It seems fairly obvious in retrospect, yet even with such a concrete example of sensory perception conflicting with reality, we continue to wrestle with inertia's impact on us and the decisions we make. While the traditional application of inertia largely involves physics, and the ways in which various motions can be explained, it also can be extended to human psychology, decision making, and energy commodities.

Inertia is why we generally resist change, prefer to maintain the status-quo, and why we have a propensity to maintain defaults either by repeating prior decisions or avoiding action altogether. The key phrase of Newton's first law of motion to focus on in understanding how inertia impacts markets and decision-making processes is: *unless acted upon by an unbalanced force*. For purposes of our discussion, the unbalanced force is an external one – you, the end-user. But before we can investigate the application of unbalanced force that might be required of end-users in today's energy markets, we must investigate the present inertia of the inherently volatile underlying energy commodity, natural gas, and the increasingly correlated wholesale power trends.

There are constantly a multitude of propelling external forces at work in the natural gas arena, and those have been well-documented in previous commentaries (see June commentary). As of today – these forces have generated enough inertia to push natural gas above the \$4 mark for the first time in several years. Natural-gas futures have gained about 40% since April and are more than twice the price of a year ago. PJM wholesale power prices in July were the highest we've seen in seven years. In ERCOT, increasing fuel costs are a key upside price risk to the forward curve, in July accounting for the majority of electricity price increases for Cal 2022 and Cal 2023. In NYISO, winter prices have continued higher on rising scarcity concerns, with November 2021-March 2022 surging \$5.02/MWh (7.7%). No matter where you look, prices are on the rise and show no signs of slowing down. If you missed it, here is a quick summary of why the price increase is entirely justified: i) the market is undersupplied through the winter and well into 2022, even with prices above \$4/MMBtu, ii) the current natural gas storage trajectory remains on track for the second-lowest end of injection-season of the past decade, iii) gas-to-coal switching, historically an effective market-balancing mechanism, is tapped out due to continued waves of coal-plant retirements iv) LNG export volumes and prices continue to set new records and v) natural gas producers continue to demonstrate restraint and are committed to maintenance-level production.

This maelstrom of bullish factors has generated an incredible amount of upward price momentum (its current inertia) over the past month, and there is very little evidence of any bearish unbalanced force on the horizon that could reverse this motion. This leaves end-users of energy commodities in a predicament, and one that requires a realignment of their risk tolerances and energy budget expectations.

Market Commentary (continued)...

Abrupt changes in inertia can lead to whiplash, which Newton's third law colloquially sums up as "every action has an equal and opposite reaction." An automobile rear-collision is a prime example of this, and they are often accompanied by neck injuries and pain that is not fully experienced until days later. When the impact occurs, the occupant remains stationary, but the car begins to move forward. This is not unlike the comparison between 2020 energy commodity settlements and those of 2021 and beyond, and how paralysis can be the default modus operandi when faced with these commodity cost increases. Last year, vast oversupply in the doldrums of the pandemic led to multi-decade lows in the natural gas and power markets. This year, NYMEX futures are at multi-year highs in the face of opposite market dynamics, and those highs will likely persist well into 2022. Those end-users who were able to take advantage of the 2020 multi-decade lows are reaping the benefits of those below-market contracts and feeling confident about the decisions they made. However, and this is where the psychology of decision-making comes into play, this does not mean that the risk in the forward markets has been avoided. In reality, unless your supply agreement extends beyond 2023, risk will be waiting for your budget with hungry hands just as soon as your existing supply agreement expires. And while that can be painful for budgets, now would be a good time to check the seatbelts and make sure your headrests are situated appropriately.

Imagine this scenario (if you're not already facing it): you're coming off a competitive supply agreement with an underlying commodity rate of \$2.50/MMBtu (gas) or \$30/MWh (power), only to find that the market can no longer bear those prices, and the "savings" that you have been accustomed to obtaining against your current contract is not available. Indeed, \$5-\$6/MMBtu natural gas prices are certainly not out of the question moving forward, and the current natural gas storage trajectory may require domestic prices to continue to rise in order to compete with the global price environment, resultant of surging demand for the bridge fuel. Most clients are disinterested in executing their subsequent agreement amid a bullish run, but here's the kicker that we must be mindful of: in the immortal words of The Carpenters, "we've only just begun." I touched earlier on how the concept of inertia has been used to describe many different psychological phenomena related to a resistance to change, and that ultimately leads to inaction when repeated action results in what is deemed to be an unfavorable outcome. Inaction is not a risk-mitigation strategy, force must be applied against commodity inertia to successfully manage your forward risk, and that requires making informed decisions. Imagine this scenario: your energy budget today can be held relatively stable or increased slightly if you elect to pull in the existing (but fading) value in the forward curve, yet you decide to wait. Several months pass, the market continues its ascent, and holding your budget stable is not only no longer an option, but you're facing substantial increases. When markets are structurally adjusted by external forces, so too must our expectations and actions; otherwise, inertia will continue to steamroll your budget without regard.

Quick Hits

- For the week ending July 30th, the EIA reported an injection of +13 Bcf, which was below the estimate of +17 Bcf and on the low end of the +11 to +24 Bcf range, according to a survey of analysts by S&P Global Platts. This was more than one-third below the anticipated increase of 20 Bcf.
- If natural gas production does not grow meaningfully this autumn, the market is likely to become increasingly concerned with the low storage trajectory and risks of winter supply shortages.

Bullish Factors

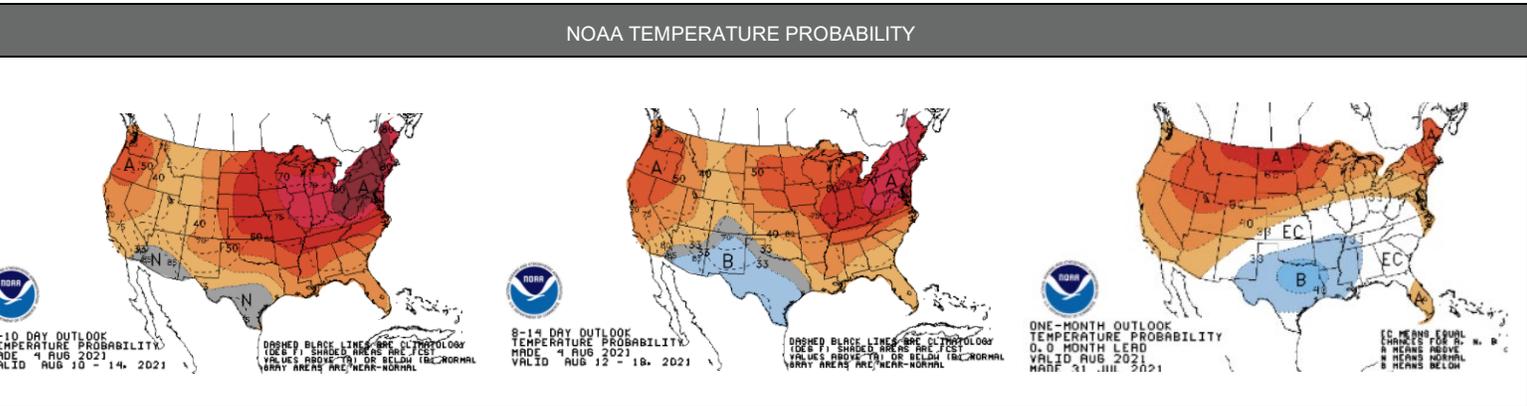
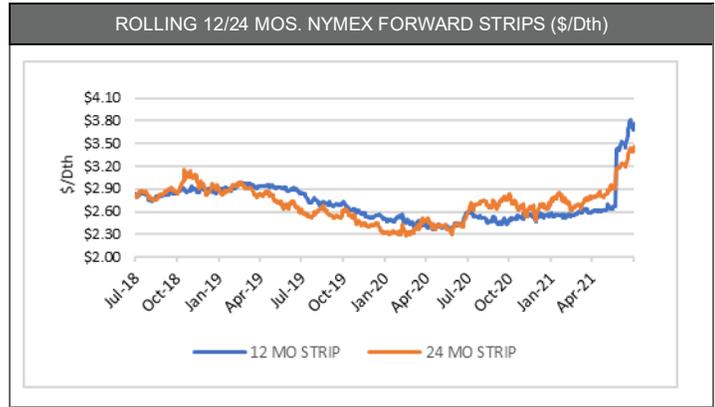
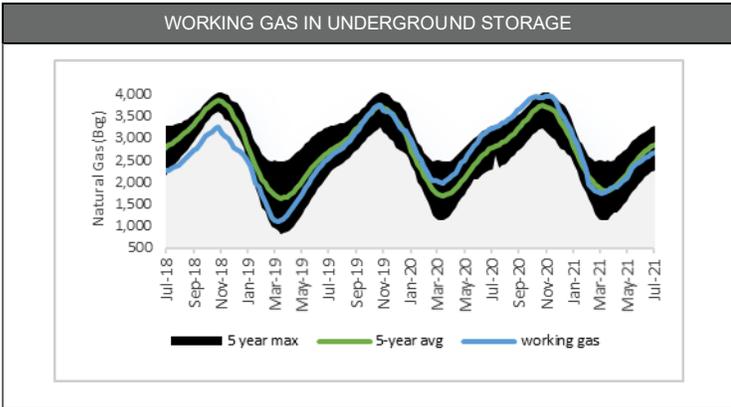
- Even with prices above \$4.00/MMBtu, the natural gas storage trajectory remains on track for the **second-lowest end-of-injection season storage levels of the past decade**.

Bearish Factors

- Yesterday's decline in the September natural gas contract was aided by stumbling LNG feedgas flows, reaching its lowest demand level since mid-June. Cameron has one train offline for maintenance, while falling flows at Sabine Pass indicate maintenance is likely similarly taking place.


Natural Gas

CURRENT/HISTORICAL STORAGE (Bcf)						HENRY HUB PROMPT MONTH NAT GAS SETTLEMENTS								
Region	7/23/2021	7/16/2021	% Chg.	Year Ago	5-Yr Avg.	Trade Date	Open	High	Low	Settle	% Chg.	Est. Vol		
East	583	562	3.74%	▲	704	636	8/3/2021	3.959	4.077	3.915	4.027	▲	1.72%	124,467
West	1132	1113	1.71%	▲	1321	1185	8/2/2021	3.973	4.042	3.928	3.935	▼	-0.96%	114,198
Producing	999	1002	-0.30%	▼	1212	1060	7/30/2021	4.051	4.055	3.855	3.914	▼	-3.38%	172,277
TOTAL	2714	2678	1.34%	▲	3237	2882	7/29/2021	3.941	4.097	3.927	4.059	▲	2.99%	122,879


Weekly Average Retail Electricity Price Trends (Sep 2021 Start)

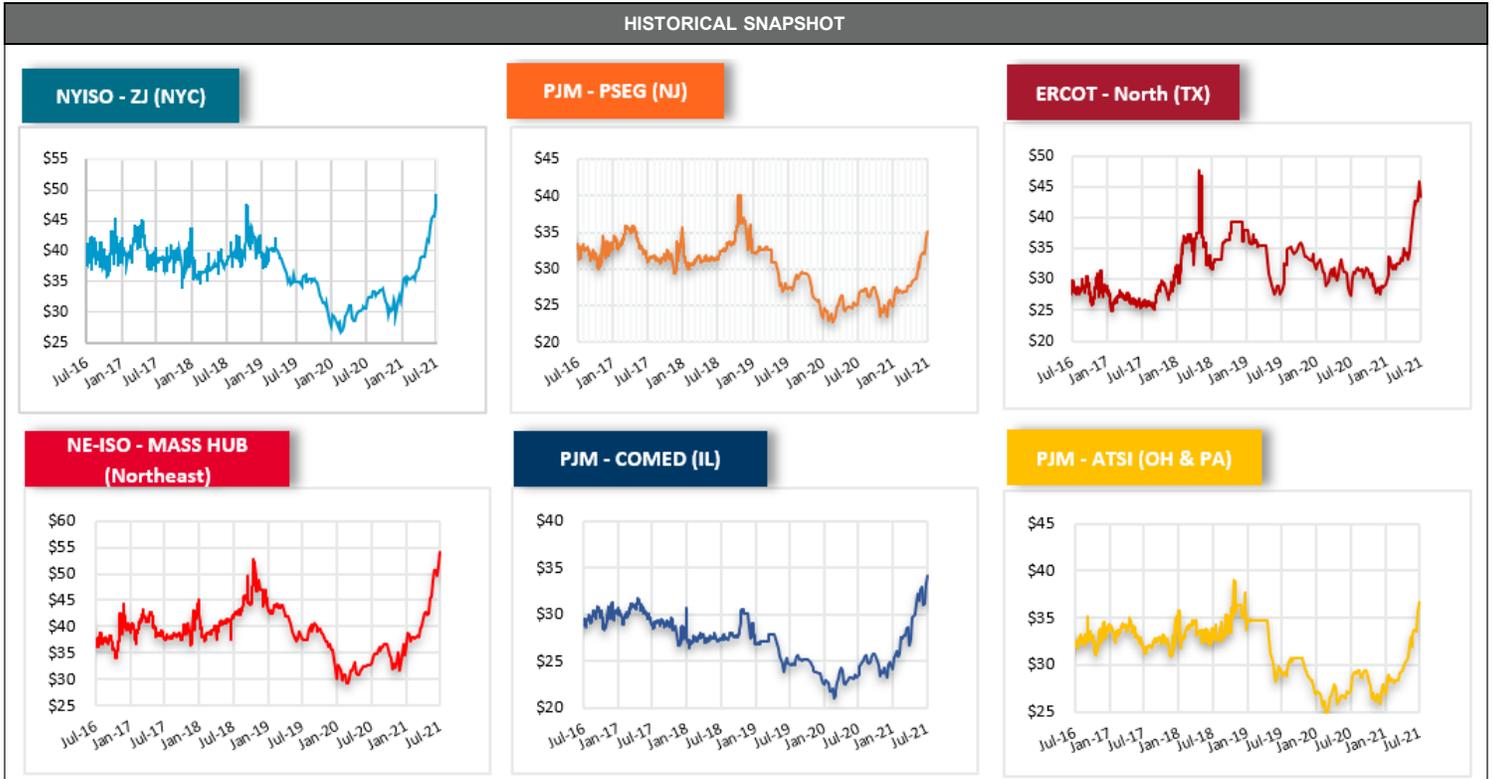
*actual rates may vary by usage. Rates are aggregated from sources reflecting the general service (GS) rate class across multiple utilities in the state.

Term	New Jersey	New York (ZJ)	Massachusetts	Ohio	Illinois	Texas	DC	Pennsylvania	Connecticut
12-month	\$0.1073	\$0.0894	\$0.1084	\$0.0565	\$0.0758	\$0.0648	\$0.0831	\$0.0647	\$0.0898
24-month	\$0.1011	\$0.0912	\$0.1044	\$0.0523	\$0.0684	\$0.0599	\$0.0798	\$0.0609	\$0.0863
36-month	\$0.0993	\$0.0940	\$0.1016	\$0.0506	\$0.0656	\$0.0574	\$0.0787	\$0.0593	\$0.0843



Forward Wholesale Electricity Price Settlements

HISTORICAL SNAPSHOT



Energy Market News

U.S. nat gas futures rise over 3% to 31-month high on hot forecasts

<https://reut.rs/3fxcsoC>

U.S. natural gas inventories seen up 21 bcf in week to July 30: Reuters poll

<https://reut.rs/3ChxSzB>

U.S. Natural Gas Prices Flying Through Summer 2021

<https://bit.ly/37iAMGj>

Baker Hughes North American rig count

<http://bit.ly/1elov2d>

EIA Short Term Energy Outlook

<http://www.eia.gov/forecasts/steo/>

Data Highlights

WTI crude oil futures price

↓ \$1.09 from week earlier

8/3/2021: **\$70.56 /bbl**

↑ \$29.55 from year earlier

Natural Gas Inventories

↑ 36 Bcf from week earlier

7/23/2021: **2,714 Bcf**

↓ 543 Bcf from year earlier

Natural gas futures price

↑ \$0.056 from week earlier

8/3/2021: **\$4.027/MMBtu**

↑ \$1.926 from year earlier

Weekly coal production

↓ 0.571 million tons week earlier

7/24/2021: **11.647 million tons**

↑ 1.471 million tons year earlier

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