# Assessing Market Manipulation Claims In Energy Markets

By **Maximilian Bredendiek, Greg Leonard and Manuel Vasconcelos** (April 17, 2025)

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Market manipulation claims are often prompted by specific observations, such as sudden price changes or price patterns that deviate from historical trends. In addition, regulators sometimes point to trading behavior that differs from prior patterns as a cause of the observed prices.[1]

For example, in a June 2024 $55 million settlement between the commodity firm Trafigura and the U.S. Commodity Futures Trading Commission, the CFTC alleged, among other things, that Trafigura purchased fuel oil during specific time periods in amounts that were "much larger than it had ever previously purchased," that Trafigura's behavior "departed from its past conduct," and that its purchases "created artificially high" index prices "that were not reflective of ordinary forces of supply and demand" and which "benefitted Trafigura's futures and swaps positions that settled by reference to that" index."[2]

Generally, these types of claims often include the assumption that the observed deviations from historical trends and patterns were caused, at least to a substantial degree, by the alleged manipulation and not by other factors.

However, a particularly careful review of this assumption is called for in the context of trading in energy commodities — e.g., oil, gas or electricity. This is because the unique features of energy markets make them conducive to sudden price changes, breakdowns in existing pricing linkages and substantial changes in trading patterns, all of which regulators and civil plaintiffs may attribute to market manipulation.

As discussed in this article, a careful consideration of how unique market features may influence these observed patterns can be of critical importance when evaluating claims related to market manipulation and trading conduct in energy markets. The considerations discussed in this article are particularly important given recent macroeconomic developments and the possibly heightened level of regulatory attention being paid to trading conduct in these markets over the next few years.

First, changes in macroeconomic factors affecting energy commodities such as natural gas and electricity will likely have an impact on well-established historical price relationships.[3] For example, increased exports and a growing importance of U.S. natural gas for global energy supplies come together with an increase in trading by non-U.S. market participants, indicating a shift toward increasingly interconnected energy markets.[4]

Furthermore, the impact of AI is expected to lead to a substantial increase in demand for electricity to power data centers.[5] At the same time, the increased use of renewable energy can lead to changes in the price relationships between different energy commodities and products, as well as to electricity prices becoming more volatile in general.[6]

Second, while the recent reorganization of CFTC's enforcement functions and the creation of the Complex Fraud Task Force in February are expected to lead to a reduction in reporting and recordkeeping investigations, they will likely lead to a renewed interest in pursuing inquiries into complex trading patterns.

As CFTC acting Chairman Caroline D. Pham noted in a Feb. 4 press release announcing the creation of the task force, "[t]hese much-needed changes will maximize the CFTC's resources to bring more actions to pursue fraudsters and other bad actors, and not punish good citizens." The CFTC furthermore stated that "[t]he new structure will better leverage staff expertise to more efficiently utilize the CFTC's resources to prevent fraud, manipulation, and abuse and ensure market integrity."[7]

Taken together, these recent developments show that responding to market manipulation inquiries necessitates an informed understanding of how unique market features may influence these observed patterns of energy commodities, which is more critical now than ever.

**Factors Important to Consider When Analyzing Trading in Energy Commodities**

***Inelasticity of Demand and Supply***

The supply of energy commodities in different geographic locations can often be inelastic, i.e., it does not quickly adjust to new price levels. This is particularly evident in the short term, as it takes time to drill a new well or build a new power plant.

If supply cannot easily respond to price incentives, a sudden increase in demand may lead to significant price increases. Demand for most energy commodities is usually considered inelastic as well, as it takes large changes in prices to affect consumers' actions.[8]

As a result, relatively small changes to supply or demand can have a large and sudden impact on commodity prices. For example, after one of the largest U.S. plants producing liquefied natural gas shut down following an explosion in 2022, local natural gas prices fell due to the reduced ability to export gas while international gas prices increased due to the reduced LNG supply.[9]

While large and sudden price changes can lead to market manipulation investigations, it is important to consider the extent to which prices may have been affected by changes in supply or demand fundamentals, and the extent to which the impact of those changes is driven by price inelasticity. This assessment is particularly important in today's volatile climate, particularly as the U.S. becomes a more important supplier of gas and oil in international markets, and supply from other sources can rapidly change due to geopolitical tensions — e.g., the impact of the Russia-Ukraine war on crude oil prices or the March 24 introduction of U.S. tariffs on imports from countries that buy oil or gas from Venezuela.[10]

***Local Nature of Prices and Physical Limits to Arbitrage***

The impact of supply-demand imbalances on commodity prices can be exacerbated by the fact that prices in many energy commodities reflect local factors. While prices in different geographical locations may move closer due to arbitrage — i.e., traders will buy in one location, transport the commodity to another location, and sell it there to profit from any price differential until both prices converge and the profit opportunity disappears — there

are usually physical limits to this arbitrage and thus to its ability to bring local prices closer to each other.

For example, in the case of natural gas, price relationships between two areas generally depend on the existence and capacity of transportation infrastructure — e.g., pipelines or LNG carriers — and the cost of such transportation. If geographical areas are not physically connected, or if the transportation capacity is constrained, price relationships may be less robust.

As an illustration of the impact of physical constraints, natural gas prices in the West Texas Waha hub have been negative several times — i.e., sellers pay for someone to take the natural gas — due to, among other factors, increased supply from oil explorations in the Permian region and the limited pipeline capacity to transport natural gas into other locations.[11] When these physical constraints changed as a new pipeline opened in October 2024, the prices at the Waha hub surged.[12]

The local nature of prices for energy commodities and physical limits to arbitrage can make it hard to design a counterfactual price scenario when analyzing market manipulation claims. Sudden price changes and price divergences between geographical areas can occur for many reasons and may not necessarily indicate market manipulation.

Furthermore, arbitrage relationships, and thus links between prices in different locations, can change over time. For example, with the recent and ongoing increase in LNG export capacity in the U.S., it is possible that U.S. gas prices become less "local" and are more affected by prices in importing regions such as Western Europe and Asia.

The current trend toward increasingly interconnected energy markets also means that local demand and supply shocks could have knock-on effects on global prices.[13] Such changes can be important to understand as regulators often point to preexisting relationships between different prices — and a deviation from those relationships — as suggesting market manipulation.

### *Seasonality and Impact of Weather and Other Events*

Prices can also depend on the time of the year, usually because demand is seasonal while supply is more stable. For example, demand for natural gas increases during the winter months due to an increase in heating, which is reflected both in prices — which typically rise during the winter months — and in storage levels, which are highest between the end of October and mid-November, and lowest at the end of winter.[14] These seasonal price patterns may differ across locations, which introduces seasonal variation in price differentials as well, i.e., the spreads between prices in different locations.

In addition to those well-established and expected seasonal price variations, weather events can lead to price spikes due to the inelasticity of demand and supply.

For example, during Winter Storm Uri in February 2021, natural gas prices in certain U.S. locations showed extreme spikes. The price at the OGT hub in Oklahoma reached an average of $1,193/MMBtu on Feb. 17, while the spot price was around $3/MMBtu during the first week of February.[15]

As another example, Winter Storm Elliott in December 2022 led to substantial power outages and spikes in electricity prices in the eastern U.S. The Federal Energy Regulatory Commission opened investigations into potential market manipulation by market

participants in relation to both weather events.[16]

Thus, the impact of seasonality and weather events on prices and price differentials is an important factor to consider when analyzing market manipulation claims, and understanding it may require careful and rigorous analyses beyond merely comparing to historical prices.

Moreover, extreme weather events can exacerbate energy market volatility. In 2024, intense heat waves contributed to record global power demand, primarily due to increased cooling needs.[17]

More generally, while prices of different energy commodities and products may be linked, those correlations can change over time. For example, natural gas can be used in gas-fired power plants to create electricity. Higher natural gas prices may thus lead to higher electricity prices.

However, this relationship may weaken or otherwise change as more renewable power becomes available over the next few years, increasing electricity supply, or as the relative cost of alternative inputs to create electricity — e.g., coal used by coal-powered plants — decreases. Thus, when analyzing market manipulation claims in a specific commodity, it can be important to consider prices for other related products and how the relation to those may have been affected by changes in the market.

### ***Specific Features Relevant in the Context of Trading Energy Commodities***

In addition to price changes or price patterns that deviate from historical trends or from existing expectations, regulators and civil plaintiffs sometimes point to specific trading conduct as indicative of market manipulation. It is therefore important to be aware of at least some features that are relevant to understanding trading in many energy commodities: the prevalence of price indices — and, closely related, a product's liquidity — and the fragmented nature of trading.

As with the other factors discussed in this article, trading patterns and liquidity in energy products have been affected by broader macroeconomic and geopolitical developments. For example, trading in U.S. natural gas futures by Asian market participants increased dramatically over the past year, as the increase in LNG export capacity makes U.S. gas prices more relevant for international buyers.[18]

*Price Indices and Liquidity*

Market participants frequently rely on price indices. For example, in 2023, 86% of natural gas transactions reported to FERC via Form 552 submissions were index-priced, suggesting that market participants place trust in those indices.[19]

Price indices for energy commodities are often based on trades that happen during a specific time window for a given instrument or geographical location, and can be beneficial by allowing for increased standardization and more price transparency, especially for commodities for which trading is dispersed and infrequent or happens in small quantities.[20] However, regulators may be concerned that indices introduce incentives for market manipulation, particularly if the index is referenced in derivative markets that are larger than the underlying physical trading that is used to set the index price.

While price manipulation can be a potential concern, it is also important to understand why market participants may trade during the time windows when index prices are set. For

instance, it can be a particularly liquid time of the day, and trading closer to the level at which the index is set may be beneficial from a risk-management perspective.

In general, trading in some energy commodities is characterized by limited liquidity, which can be concentrated over short trading windows. Traders may therefore strategically decide when to trade, especially if they intend to buy or sell a large position. Due to low liquidity in general, their trades may constitute a large share of the available volume.

*Fragmented Trading*

Energy products, both physical commodities as well as financial derivatives, may be traded on a centralized exchange, such as the Intercontinental Exchange. However, the same products may also be traded via brokers, and counterparties can trade with each other directly.[21] A trader may strategically decide, based on risk or relationship considerations, where and with whom to trade.

Therefore, when analyzing market manipulation claims, it can be helpful to account for factors other than price when assessing a trader's decisions. Furthermore, it may be challenging to identify the total trading interest and volume for certain commodities due to the lack of centralization and transparency.

**Conclusion**

The factors highlighted above emphasize the necessity of adopting a holistic view when evaluating allegations of market manipulation in today's energy markets. Recent changes at the CFTC may foreshadow heightened scrutiny of trading practices, particularly amid ongoing substantial economic and geopolitical changes affecting energy commodities.

Observations that regulators or civil plaintiffs often interpret as indicative of manipulation, such as sudden price spikes, disrupted relationships among energy prices or certain trading behaviors, need to be assessed in the context of these unique and contemporaneous market factors. For those responding to market manipulation inquiries, an in-depth understanding of these issues, assisted by a careful analysis of the data, is more critical now than ever.

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[1] Regulators may further consider the holdings of market participants or other private information when analyzing indications of manipulative intent.

[2] In the Matter of: Trafigura Trading LLC, Order Instituting Proceedings Pursuant to Section 6(c) and (d) of the Commodity Exchange Act, Making Findings, and Imposing Remedial Sanctions, CFTC Docket No. 24-08, June 17, 2024.

[3] See, e.g., "U.S. LNG exports soar in December, lifting full-year growth by 4.5%," Reuters, January 2, 2025, https://www.reuters.com/business/energy/us-lng-exports-soar-

december-lifting-full-year-growth-by-45-2025-01-02/; "The United States exported a record volume of natural gas in 2023," U.S. Energy Information Administration, April 15, 2024, https://www.eia.gov/todayinenergy/detail.php?id=61823; "DOE Releases New Report Evaluating Increase in Electricity Demand from Data Centers," U.S. Department of Energy, December 20, 2024, https://www.energy.gov/articles/doe-releases-new-report-evaluating-increase-electricity-demand-data-centers; "Solar and storage accounted for 84% of new US power added in 2024, report says," Reuters, March 11, 2025, https://www.reuters.com/business/energy/solar-accounted-84-new-us-power-added-2024-report-says-2025-03-11/.

[4] See, e.g., "Traders in Asia Are Piling Into the US Natural Gas Market," Bloomberg, March 26, 2025, https://www.bloomberg.com/news/articles/2025-03-26/traders-in-asia-are-piling-into-the-us-natural-gas-market; "The globalization of natural gas gains momentum," ICE, March 2025, https://www.ice.com/insights/energy/the-globalization-of-natural-gas-gains-momentum.

[5] See, e.g., "AI Boom Reshapes Power Landscape as Data Centers Drive Historic Demand Growth," Power Magazine, March 3, 2025, https://www.powermag.com/ai-boom-reshapes-power-landscape-as-data-centers-drive-historic-demand-growth/.

[6] See, e.g., "New solar plants expected to support most U.S. electric generation growth," U.S. Energy Information Association, January 24, 2025, https://www.eia.gov/todayinenergy/detail.php?id=64364; "Why Power Prices Can Go Negative and What It Means," Bloomberg, February 17, 2025, https://www.bloomberg.com/news/articles/2025-02-17/why-power-prices-go-negative-wind-solar-and-energy-demand.

[7] "CFTC Division of Enforcement to Refocus on Fraud and Helping Victims, Stop Regulation by Enforcement," CFTC Press Release Number 9044-25, February 4, 2025, https://www.cftc.gov/PressRoom/PressReleases/9044-25.

[8] Academic literature confirms the low elasticity of demand and supply for energy commodities. For example, Kilian (2022) finds that the one-month oil supply elasticity is low, which implies that oil demand shocks are the dominant driver of the price of oil in the U.S. and globally. See Lutz Kilian, "Understanding the Estimation of Oil Demand and Oil Supply Elasticities," Energy Economics 107 (2022).

[9] See, e.g., "Freeport LNG Plant Blast Adds to Strain on Global Supplies ," Reuters, June 9, 2022, https://www.reuters.com/business/energy/explosion-hits-freeport-lng-plant-us-natgas-prices-plunge-2022-06-08/. The degree to which demand and supply can adjust depends on a variety of factors. For example, storage facilities for crude oil or natural gas can be filled when production exceeds consumption and can then be drawn down when demand increases or supply falls (e.g., during cold winter months).

[10] See, e.g., "Oil prices mixed as Russia-Ukraine truce offsets Venezuela supply worries," Reuters, March 25, 2025, https://www.reuters.com/business/energy/oil-prices-little-changed-investors-weigh-impact-trump-tariffs-2025-03-25/.

[11] "Negative Permian Gas Prices Set Record Stretch as Matterhorn Startup Looms," S&P Global Commodity Insights, August 21, 2024, https://www.spglobal.com/commodityinsights/en/market-insights/latest-news/natural-gas/082124-negative-permian-gas-prices-set-record-stretch-as-matterhorn-startup-looms; There are other historical instances in which energy commodity prices

became negative, including prices for electricity and oil. See e.g., Joachim Seel et al., "Plentiful Electricity Turns Wholesale Prices Negative," Advances in Applied Energy 4, November 2021, p. 100073; "Crude Oil Futures Prices Turn Negative," Congressional Research Service, IN11354, April 22, 2020, https://www.congress.gov/crs-product/IN11354.

[12] "Matterhorn Pipeline Ramps Up Natural Gas Flow, Lifts Waha Prices," Pipeline & Gas Journal, October 7, 2024, https://pgjonline.com/news/2024/october/matterhorn-pipeline-ramps-up-natural-gas-flow-lifts-waha-prices.

[13] "The globalization of natural gas gains momentum," ICE, March 2025, https://www.ice.com/insights/energy/the-globalization-of-natural-gas-gains-momentum.

[14] "Introduction to Natural Gas Seasonality," CME Group, https://www.cmegroup.com/education/courses/introduction-to-natural-gas/introduction-to-natural-gas-seasonality.html.

[15] "Cold weather brings near record-high natural gas spot prices," U.S. Energy Information Association, March 5, 2021, https://www.eia.gov/todayinenergy/detail.php?id=47016.

[16] 2023 Report on Enforcement, Office of Enforcement, FERC, Docket No. AD07-13-017, November 16, 2023, pp. 42, 79.

[17] Global Energy Review 2025, International Energy Agency, March 2025.

[18] "Traders in Asia Are Piling Into the US Natural Gas Market," Bloomberg, March 26, 2025, https://www.bloomberg.com/news/articles/2025-03-26/traders-in-asia-are-piling-into-the-us-natural-gas-market.

[19] See "Characteristics of U.S. Natural Gas Transactions – Insights from FERC Form 552 Submissions (2024)," Cornerstone Research. https://www.cornerstone.com/wp-content/uploads/2024/12/Characteristics-of-US-Natural-Gas-Transactions-July-2024.pdf.

[20] For example, S&P Global Commodity Insights' Platts (Platts) publishes daily index prices for North American natural gas markets, which are calculated as the volume-weighted average price of all fixed-price and basis (i.e., gas that is priced in relation to the final settlement price of the Henry Hub Natural Gas futures contract for the same delivery month) trades that either have been reported to Platts or that happened on the ICE exchange for locations with robust trading activity. In less liquid or highly volatile markets, or if there have been no reported trades, Platts may publish a price assessment, taking into account other market information (e.g., historical daily prices, relationships between different local markets, and physical bids and offers). See "Methodology and Specifications Guide – US and Canada Natural Gas," S&P Global Commodity Insights Platts, November 2024.

[21] Note that this is also a factor in some financial markets, such as the market for corporate bonds, where bonds can be listed on exchanges but are mostly traded directly between market participants (over-the-counter).