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Argus White Paper: Argus US Jet Fuel Prices Explained

Does market liquidity matter?

The market price with the greatest integrity is the one based on the greatest liquidity. Liquidity matters because it is the foundation for accuracy.

As a result, Argus jet fuel prices in the US incorporate every verified spot trade available in the trading day, not a few select deals at the close (see table below). Our US jet fuel prices represent the low and high, and volume-weighted averages of deals done.

In the US jet fuel market, Nymex provides the fixed price, and the cash market trades at differentials to this moving target. The industry has asked Argus to index the differentials we collect to the Nymex settlement price because it represents the deepest, broadest, and most easily hedged fixed-price value available. As a service firm, Argus provides prices as a tool for use in many types of supply arrangements, applying a pricing methodology that aligns with how airlines and suppliers actually buy and sell oil.

By any measure, jet fuel prices have become more volatile. Volatility in the basis differential price is best resolved by using broad market average prices to represent the entire day – prices based on all the liquidity available. One approach is to benchmark the entire day to a single moment in time. But this actually exacerbates the volatility by exaggerating the price movement between days. Liquidity-based market averages are the best alternative.

Participant diversity in a market also guarantees that the interests of suppliers, airlines, and intermediaries are fairly represented in price formation. Argus prices include deals by all classes of trade that are active in the jet fuel market.

US refiners, marketers, airlines, and traders are integrating Argus prices throughout their organizations. The industry is rapidly forming a consensus that an entire-day mean or a volume-weighted average differential price embeds within it the bona fide volatility of the day, the greatest diversity of participants, and the full volume of transac-

| Spot market deals done | | | | | |
|------------------------|---------|------------|-----------|-------|------------|
| Market | Spec | Timing | Basis | Price | Volume |
| Singapore | Jet A-1 | 1-5 Nov | Mops | +0.05 | 100,000 bl |
| NYH Colonial | Jet A | 54th Cycle | Nov Nymex | -2.75 | 25,000 bl |
| NYH Colonial | Jet A | 58th Cycle | Nov Nymex | -5.25 | 50,000 bl |
| NYH Buckeye | Jet A | 16-18 Oct | Nov Nymex | -2.25 | 25,000 bl |
| NYH Buckeye | Jet A | 16-20 Oct | Nov Nymex | -2.00 | 25,000 bl |
| NYH Buckeye | Jet A | 16-20 Oct | Nov Nymex | -1.75 | 25,000 bl |
| NYH Buckeye | Jet A | 16-20 Oct | Nov Nymex | -1.75 | 25,000 bl |
| USGC Colonial | Jet A | 58th Cycle | Nov Nymex | -5.25 | 25,000 bl |
| USGC Colonial | Jet A | 58th Cycle | Nov Nymex | -5.25 | 25,000 bl |
| USGC Colonial | Jet A | 58th Cycle | Nov Nymex | -5.25 | 50,000 bl |
| LA | Jet A | Any Oct | Nov Nymex | -5.00 | 25,000 bl |
| LA | Jet A | Any Oct | Nov Nymex | -4.75 | 25,000 bl |
| LA | Jet A | Any Oct | Nov Nymex | -4.50 | 25,000 bl |
| LA | Jet A | Any Oct | Nov Nymex | -4.50 | 25,000 bl |

tions. Applying that differential price to the futures settlement adds strength to strength. You cannot have integrity without liquidity.

Argus Captures the Entire Day

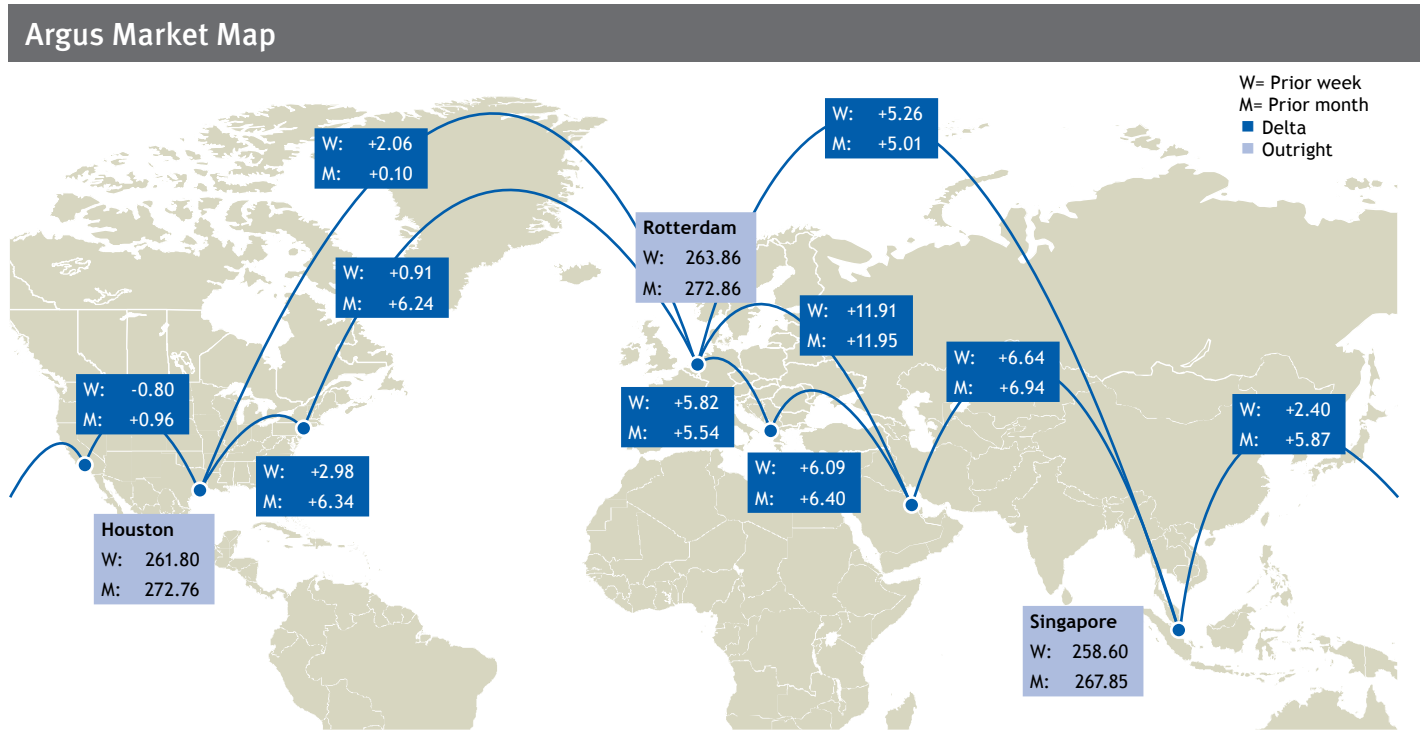
The US jet fuel market is a rateable market, based on all-day refining operations and all-day supply into planes and airport storage. The spot markets reflect this physical reality by trading throughout the business day. For jet fuel in the US, Argus publishes the low and the high of deals done. Argus also provides a volume-weighted average of deals done in the actively traded Colonial pipeline spot market for 54 grade jet fuel.

Argus values transparency, so we publish the price and volume of every deal we discover through the entire trading day (see table on p1). This allows you to cross check the deals against the prices. And Argus is committed to verifying deal prices, counterparties and volumes.

Not all markets trade actively, so in these markets Argus publishes an intelligent range of trade. In less active markets, Argus

Petroleum

illuminating the markets



looks to assess the range within which product could have traded, based on bids and offers through the day, movements in similar grades and extensive polling of market participants.

The Market-on-Close

In contrast, the competing methodology assesses US jet fuel markets based exclusively on deals done in a narrow window ending at 3:15pm EST. This market-on-close (MOC) methodology marks the value at the moment it is assessed, but reflects only a small subset of the day’s activity. The industry trades far less in the MOC window than throughout the entire day.

Trades in the window are only done to hedge exposure to the index or to set the value of index-linked business. Trades done throughout the day are transacted to manage the legitimate physical forces of supply and demand.

The resulting window price deviates significantly from the mean and the weighted average of deals done for the entire day. This divergence has opened up new risks for both supplier and airline, risks that many are either unwilling or unequipped to hedge.

Who is Argus?

Argus is an independent media organisation with more than 600 full time staff. It is headquartered in London and has offices in each of the world’s principal commodity centres. Its main activities comprise publishing market reports containing price assessments, market commentary and news, and business intelligence reports that analyse market and industry trends.

Argus is a leading independent price reporting agency covering energy markets around the world. Founded in 1970, Argus has offices in 20 countries and reports on oil, coal, LPG, natural gas, emissions, metals, power, petrochemical and fertilizer markets, as well as freight and other transport issues.

Argus has 19 offices globally, including London, Houston, Washington, New York, Calgary, Rio de Janeiro, Singapore, Dubai, Beijing, Tokyo, Sydney, Moscow, Astana and other key centres of the commodity industries. Argus was founded in 1970 and is a privately held UK-registered company.

Further compounding this risk, the MOC differentials are applied not to the Nymex heating oil settlement price but to an assessment of futures value at 3:15 EST. After-hours futures trading can never match the liquidity and usefulness of the Nymex settlement, and no OTC instrument can possibly replace the settlement.

Financial crude and products markets remain inextricably bound together at the 2:30 EST settlement. Crude futures volume will never shift to 3:15 because the US physical crude market has already moved to an Argus basis, and Argus crude prices are based off the 2:30 settlement. Many airline treasury departments hedge risks by using not only the heating oil and jet fuel derivatives but also by using crude futures. The mismatch between the financial hedge and the physical index will open up new risks.

The long term solution to this hedging problem is to use Argus pricing for jet fuel supply contracts.

The Argus Alternative

Jet fuel term contracts for both bulk and airport-level supply were originally signed on the assumption that the index reflected the aggregate of the entire day's trade and was based on the futures settlement. Argus is now the source for this type of index. Switching to Argus is viewed by many not as switching, but simply going back to where they began.

US refiners are converting much of their business now to an Argus basis. US midstream and marketing firms are also diversifying their term contracts to include Argus. Argus is already the primary price index in the US domestic crude oil markets – for grades such as LLS, WTS, and Mars.

Those interested in hedging with jet fuel swaps also find that the entire-day approach works best. CME Nymex ClearPort has listed jet fuel contracts for both the Gulf coast and New York as a result of customer demand for these new instruments (see box below).

Using Argus prices – which are based on all the spot trade throughout the day – better serves the airline and the supplier who are looking to achieve the best average price, and reduce the volatility that has plagued the jet fuel industry.

Argus Jet Fuel Swaps available on CME Clearport®

The following Argus settled swaps are currently available to trade on ClearPort.

Outrights

4Y New York Harbor Jet Fuel (Argus) Calendar Swap

AF Gulf Coast Jet (Argus) Calendar Swap

Cracks & Spreads

JU Jet Up-Down (Argus) Swap

5U New York Harbor Jet Fuel (Argus) vs Heating Oil Spread Swap

Argus Jet Fuel

Argus now publishes all of its global jet fuel prices in one daily publication.

We add news, market commentary, regional spreads, and other metrics and comparisons. The result is the most comprehensive fuel market report for the aviation industry.

Contact sales@argusmedia.com for a free trial.

The screenshot displays the Argus Jet Fuel website layout. At the top left is the Argus logo and the URL argusmedia.com. The main header reads 'Argus Jet Fuel' with the issue date 'Issue 14,201 | Friday 10 October 2014'. Below the header, there are sections for 'LATEST NEWS' with three bullet points, an 'OVERVIEW' section with three paragraphs, and a 'PRICE SUMMARY' table. The table lists prices for Singapore, South Korea, Midwest US, New York, Houston, and Los Angeles in both USD and EUR. A line chart titled 'Singapore 3-day moving avg' shows price fluctuations from 9 Oct to 10 Oct. A 'Contents' sidebar on the right lists sections like 'Latest news', 'Asia Pacific commentary', 'Europe commentary', 'Energy commentary', and 'Argus Jet Fuel' with their respective page counts. The footer contains the copyright notice: 'Copyright © 2014 Argus Media Inc.'

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