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## Argus White Paper: Argus Jet Fuel Price Assessments

Companies that use published jet fuel prices in contracts want index prices that represent the market the way that it trades. They want index prices that are based on as much liquidity as possible, that are accurate, independent and transparent. Argus Media provides index prices that meet these criteria, backed up by a published methodology, strong editorial procedures, and a robust corporate compliance programme.

Argus develops its jet fuel methodology in consultation with the industry, including refiners, traders, midstream operators and end-users such as airlines. Our goal is to provide consistent and representative tools for use in a broader pricing and risk management programme. Markets around the world will trade differently, and so the Argus methodology will reflect these regional variations. But in each market, Argus believes that the most representative prices are those that reflect the way the industry actually trades, and that seek to include as much liquidity as possible.

### US jet fuel markets

Argus jet fuel prices in the US incorporate all bona fide spot trade available throughout the trading day, not a few select deals at the close. Our US jet fuel prices represent the low and high, and volume-weighted average of deals done. In the US, the exchange provides the fixed price basis, and the cash market trades at differentials to futures. The industry has asked Argus to index the differentials we collect to the settlement price as published by the exchange, because it represents the deepest, broadest, and most easily hedged fixed-price value available. Adding the all-day differential price to the futures settlement adds strength to strength.

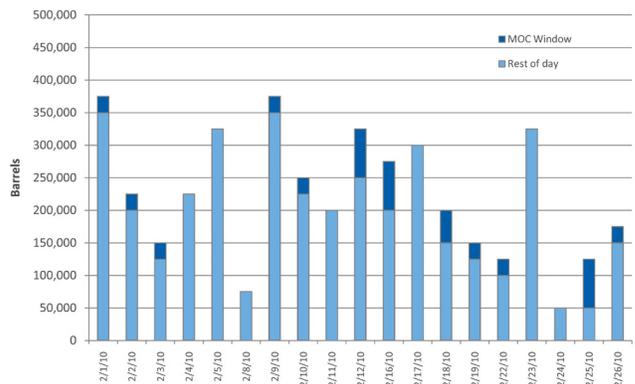
Argus values transparency, so we publish the price and volume of every deal we discover through the entire trading day. And Argus is committed to verifying deal prices, counterparties and volumes. In less active markets, Argus looks to assess the range within which product could have traded, based on bids and offers throughout the day, movements in similar grades and extensive polling of market participants.

The competing methodology represents prices as a market-on-close (MOC). It is important to note that in the most active jet fuel market in the US, the Gulf coast Colonial market, trade in the MOC window was only 12.5% of all jet fuel trade in first-quarter 2010. The MOC price represents only a small fraction of the total liquidity available.

Applying differentials to the Nymex settlement is extremely important to refiners. Refiners use the “Trade at Settlement” or “TAS” system as a means of perfectly hedging the Nymex component of any physical deal (spot or contract) that is tied to an index price published by a price reporting agency – without having to scramble to trade right at the close to try and replicate the settlement value. Last year, the competing index decided to assess the Nymex value 45 minutes after the settle and use that price as the fixed price basis. This opened up all US suppliers of jet fuel to 45 minutes of fixed price risk and sharply increased the costs of covering that risk. Argus has continued using the settlement because that is the way the market trades.

The Argus entire-day methodology and its use of the settlement basis have encouraged many US suppliers to diversify the indexation of clean product term contracts to include Argus.

### COLONIAL JET FUEL PROMPT CYCLE TRADING VOLUME



This chart shows the daily physical volume reported to Argus for the prompt jet fuel on the Colonial pipeline. The yellow bar shows the volume traded inside the MOC window, and the red bar shows the volumes traded outside the MOC window. One can clearly see that the MOC transactions make up a small subset of the total trade for the day. Argus uses transactions both inside and outside the window in its price formation process.

## Petroleum

illuminating the markets

### European jet fuel markets

In Europe, Argus applies the same principles of reporting the markets in the way that they trade. The Argus jet fuel price in Europe represents a volume-weighted average of deals done over the entire trading day. Argus arrives at fixed prices by adding the volume-weighted average differential to the Ice settlement price at 4:30pm.

Until recently, the bulk of trading was done in the MOC window in Europe. But major airlines have begun the process of diversifying their indexation by signing contracts on Argus. As a result, trade has begun to emerge outside the MOC window. The market does not naturally trade only at the close, and the only reason to trade in the MOC window is to set the price of the market report that uses that method. As a result, the prices published by Argus are beginning to represent a much broader market picture.

The example of Europe proves that the dominance of one price service is a situation created not by the suppliers but by the airlines. If the airlines diversify their indexation choices, the spot market can return to a more normally functioning system, and spot liquidity may even grow. As end-users of jet fuel, it is airlines that will benefit most from this competitive environment.

### Asia-Pacific markets

In Asia-Pacific, Argus seeks to look beyond the narrow Singapore trading window by including trade done throughout the trading day. Asian airlines typically source their jet fuel requirements by regular tenders. Argus is able to incorporate this activity in its assessments because it is not restricted to a very brief trading window. This ensures that Argus' prices reflect the activity of a significantly higher number of participants than competing services.

The Argus principle of reporting the markets in the way that they trade is demonstrated in Asia by looking further afield. The market is far more diverse than just the Singapore MOC window, where the vast majority of jet fuel producers and end-users are not represented. Argus seeks to understand the complex issues affecting regional and local demand and supply. Argus analyses the impact on prices of refinery maintenance, freight rates and of price moves in related markets in order to ensure that its Asian jet fuel assessments make sense within the context of the broader global energy complex.

Argus is also developing more regional prices based on the actual physical jet fuel that is trading in different locales. These prices will reflect the unique fundamentals of the markets assessed rather than being simple netbacks from a Singapore market that is dominated by independent traders.

### ARGUS US GULF COAST JET FUEL SWAPS OPEN INTEREST CME CLEARPORT



*As refiners in the US began to increasingly use Argus for physical jet fuel contracts, they needed a means to hedge. This chart shows the significant growth in Argus-based swaps in the most active jet swaps market in the US, the Colonial pipeline market on the Gulf coast.*

### Russian markets

In Russia, jet fuel spot market liquidity and transparency is relatively low. But airlines, government entities, and suppliers are looking for a fair index price for Russia that they can use to price local transactions and term contracts. In spite of these difficulties, Argus has been able to develop robust price assessments based on information on deals done, bids and offers collected from suppliers, traders and airlines. A consensus value of bid and offer levels is then determined and used to generate the price for jet fuel basis fit (free in tank) storage terminals of Moscow airports Domodedovo, Sheremetyevo and Vnukovo. This daily spot assessment is entirely suitable for airlines and suppliers to use to price term contracts for jet fuel.

In addition, Argus produces a formula price index based on Argus cif price quotation in northwest Europe netted back to the Moscow refinery via the port of Ventspils. This formula price is a baseline price from which companies can begin to negotiate fair and competitive premiums. Together the daily spot assessment and the formula price present a structured view of the market that allows all participants to use spot market indexation as a tool in supply contracts.

### Robust principles produce robust prices

Argus seeks to include as much liquidity as possible and to report the markets in the way that they trade. In the US, this means including the vast number of trades that happen throughout the day and using futures settlement prices. In Europe, this means encouraging index diversification and the development of a spot market throughout the day. In Asia, this means looking farther afield to unique jet fuel markets with physical trade that needs to be represented. Argus believes that its methodological principles ensure that the prices published will be the most representative, accurate, and useful to the industry.

# Argus Jet Fuel



Jet Fuel market prices and analysis Issue 10 - 02 Prices effective: Tuesday 27 April 2010

Jet Fuel Price Summary			
Change on previous day	US\$/GAL	US\$/MT	US\$/BL
Shanghai	-1.67	-5.51	-0.75
South Korea	-1.67	-5.51	-0.75
Milford Coast	-1.67	-5.51	-0.75
Rotterdam	+1.51	+5.00	+0.63
New York	-0.68	-2.23	-0.29
Houston	-0.49	-1.59	-0.25
Los Angeles	-0.61	-2.00	-0.26

### Latest News

**Economic recovery boosts March Asia-Pacific air traffic**  
Asia-Pacific airlines recorded strong growth in their passenger and freight operations in March, backed by a continuing economic recovery in the region.

Aggregated traffic data for 23 carriers of the Association of Asia Pacific Airlines (AAPA) showed March international passenger numbers rose 14.9% to 15.62m from 13.61m a year earlier. Freight traffic, measured in freight tonne kilometres, grew 33% to 5.57m from 4.19m. AAPA's passenger and freight load factor climbed 8.6 percentage points and 11.3 percentage points respectively.

### Market Summary

- Asia-Pacific jet-kerosene prices fell with softening crude futures. The upgrade continued to rise, while demand for physical cargoes was boosted by renewed Chinese buying.
- European jet prices continued to inch higher as differentials edged up as the market is recovering steadily after volcanic ash clouds clogged European airspace denting jet demand.
- US spot differentials to the Nymex heating oil contract were mixed. Gulf and west coast markets firmed, while Atlantic coast and midcontinent levels remained steady.
- Cash prices eased in all US hubs alongside a weaker heating oil screen.

International passenger traffic, measured in revenue passenger kilometres, rose by 14.2% in March amid increased available seat capacity on AAPA airlines. This led to the average international passenger load factor achieving a new high of 80.1% or 8.6 percentage points above year-earlier levels.

The AAPA sounded a word of warning for the month of April, however, in the wake of the closure of European airspace caused by the eruption from Iceland's Eyjafjallajökull volcano.

"Asia-Pacific airlines were forced to cancel most services to and from Europe for a period of six days, resulting in lost revenues estimated at \$250m, and considerable inconvenience to the travelling public and air cargo shippers," said AAPA's director general Andrew Herdman.

**US Airways comfortable without jet fuel hedges**  
US Airways is satisfied to be the only major airline that is not hedging fuel, the company said today in its first quarter earnings call.

"We continue to monitor opportunities to hedge our exposure to fuel costs, however given the continued volatility of fuel prices we have not entered into any new hedge positions," chief financial officer Derek Kerr said.

US Airways thinks the biggest risk against hedging fuel is locking into prices that end up being higher than the market while revenue falls at the same time, chief executive Doug Parker said.

"We believe there is a large economic hedge against oil prices, which is our revenue stream. At times that revenue falls and you see your revenues going away and worst yet you have to pre-pay for it because the counter party risk," Parker said. "That is a risk we want to avoid much more than protecting ourselves against modestly higher fuel prices. It appears to be a much



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The Reliable Alternative

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