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Argus White Paper:
Coke markets turning to Argus

Petroleum coke markets have historically indexed contracts to a range based on grindability, or HGI. As the market has evolved, with sulphur playing a greater role, this index in practice has come to show the range in price of two different commodities, high-sulphur and mid-sulphur coke. And these markets are increasingly diverging in value. This is leading refiners, marketers, traders and consumers to look for a less risky solution.

Energy Argus Petroleum Coke provides the market with a clear methodology and accurate prices that take the subjectivity out of coke market price assessment.

Argus assesses weekly and monthly prices for 4.5pc and 6.5pc sulphur petroleum coke, two of the most common specifications for US Gulf Coast (USGC) production. Argus uses a publicly available, transparent market-reporting methodology that clearly explains our process of price observation. These Argus assessments — designed to follow how the market actually trades — allow market participants to build an accurate pricing basis into contracts.

The market has revolted against opaque price reporting and private methodologies. Both ends of the trading chain know they need real-world pricing based on actual spot transactions.

MONTHLY INDEXES: SEPTEMBER

Fuel-grade coke calendar month indexes				$/t
	HGI	Low	High	Mid
fob US Gulf coast				
4.5% sulphur	40	49.00	57.00	53.00
4.5% sulphur	70	52.00	58.00	55.00
6.5% sulphur	40	30.00	43.00	36.50
6.5% sulphur	70	31.00	44.00	37.50
fob Venezuela				
4.5% sulphur	70	52.00	56.00	54.00
fob US midcontinent, Chicago area				
6.0% sulphur	40	17.00	28.00	22.50
fob US west coast				
<2.0% sulphur	45	69.00	83.00	76.00
3.0% sulphur	45	63.00	73.00	68.00
4.5% sulphur	45	55.00	68.00	61.50
cfr Turkey				
4.5% sulphur	70	65.00	74.00	69.50
cfr India				
4.5% sulphur	40	66.00	68.00	67.00
4.5% sulphur	70	67.00	70.00	68.50
6.5% sulphur	40	58.00	72.00	65.00
6.5% sulphur	70	63.00	68.00	65.50
cfr China				
3.0% sulphur	45	90.00	92.00	91.00
4.5% sulphur	45	80.00	82.00	81.00
6.5% sulphur	40	60.00	66.00	63.00

Different markets, different prices

Momentum toward Argus indexation has built with recognition that 4.5pc coke and the higher-sulphur products like 6.5pc sulphur are significantly divergent commodity markets. Grindability, as measured by HGI, no longer matters much. Sulphur has become the most crucial specification determining value. Supply and demand fundamentals for petroleum coke are much more tied to sulphur content than to HGI. And the result is substantial inherent risk that is making HGI-based contracts obsolete.

Supply of mid-sulphur coke from the USGC is limited and can dip or bounce, depending on the economics of crude oil and refining. But exports of mid-sulphur from Venezuela are even more unpredictable, always at risk of some sort of stoppage or slowdown but ready with ample stockpiles in the event of smooth shipping operations.

Argus addresses this supply volatility with separate assessments of the actual commodities, 4.5pc coke fob USGC and fob Venezuela. Argus subscribers get absolute clarity from these specific assessments, every week.

The high-sulphur coke market, on the other hand, has been increasingly demand-driven, with new sources of coke supply generally high in sulphur while demand for these grades is limited by environmental rules and regulation around the world.

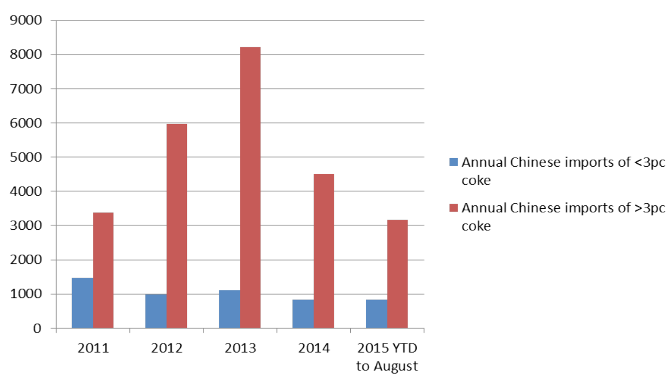
The biggest uncertainty in the coke market today centres around the issue of sulphur content. China, which had long been the world's largest consumer, has released vague legislation tightening regulation on importation and consumption of higher-sulphur coke.

Although the Chinese government has not stated officially where it will draw the line on sulphur, many market participants believe it could be limited to less than 5pc. This would push China toward consumption of the rarer mid-sulphur coke while forcing all higher-sulphur material, including the new 7-8pc sulphur cokes from Saudi Arabia and Turkey, to compete for a smaller cross-section of buyers.

This law would singlehandedly create a surge in demand for 4.5pc sulphur coke while significantly shrinking the consumer pool for 6.5pc sulphur coke, irrespective of HGI. This would drive apart the high and low prices of the competitor's HGI-based index, creating a meaningless midpoint that does not reflect the spot prices for either market.

While the Chinese prohibition on higher sulphur coke threatens to collapse high-sulphur prices in 2016, the gap between the two commodities has presented a chasm of unhedged risk to buyers and sellers for a long time. Since 2013, the range between the high and mid-sulphur coke prices has traded between $8.50/t and $20/t, which gives a perspective on how divergent the fundamentals already are between these two commodities. In contrast, the spread between the 40 HGI and 70 HGI 4.5pc sulphur markets typically ranges from $1-4/t, proof that this is not the specification that drives pricing.

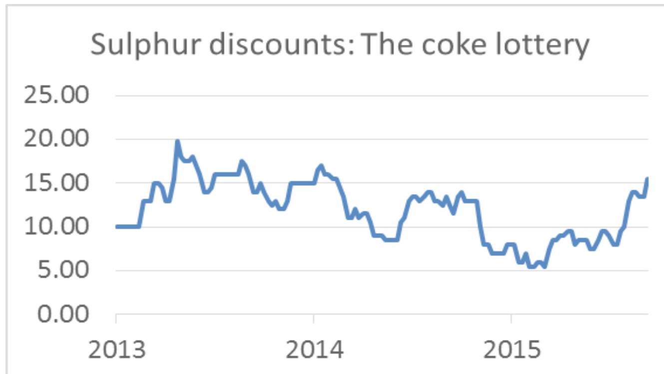
Contracting to the midpoint of the mid and high-sulphur markets may at first glance appear to benefit sellers of 6.5pc coke, as their commodity's index price will be buoyed by demand for 4.5pc sulphur coke even as actual spot prices decline. But the inaccuracy of this index in fact represents a critical threat even to refiners. Contract prices that bear little relationship to the spot price of coke can bring $2, $4, $6 or even $10/t of risk to a transaction, meaning losses on relatively few cargoes could be the difference between a counterparty remaining in business or having to close up shop.



China remains a major consumer of global high-sulphur production in 2015.

Ultimately, agreements based on the range between these two commodities invite non-performance.

The risk of this scenario is giving market participants greater incentive to switch to an index that independently assesses these two commodities based on their separate market dynamics.



A midpoint that makes sense

Argus reports prices each month for various grades and deliveries of petroleum coke. These high-low ranges represent the highest and lowest point at which that specific grade traded or would have traded in an arm's-length transaction in the month. A midpoint is provided for subscribers' convenience.

The midpoint of a monthly high and low for the specific commodity assessed avoids indexing to two different markets, reducing risks for buyers, sellers and the traders in between. In a falling market, the high is marked early in the month. In a rising price environment, the low print was earliest. But in each case, the range represents the price of the specific commodity assessed in the month, not an opaque mix of transactions bearing little relationship at all to the transactable prices of petroleum coke.

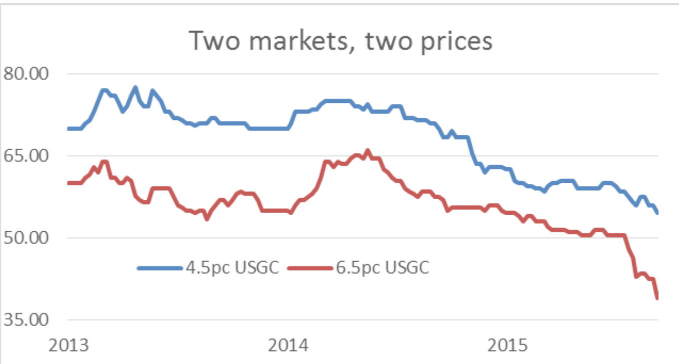
Furthermore, Argus offers weekly prices for each grade of petroleum coke, along with rolling averages for the last four weeks. These prices provide the market with an even more updated indexation tool, which reflects the trends of the most recent period rather than the trends from as much as eight weeks earlier.

Methodology matters

Indexing a contract on a price that amalgamates two completely independent commodities is essentially choosing a basket that reflects neither. It is inherently vulnerable to volatility. Riskier still is a private methodology with opacity built in. Argus methodologies are always available to stakeholders and the interested public and we use appearances at public events to explain our processes.

Argus is a trusted platform for benchmark energy and commodity prices around the world. North American crude and products markets use Argus benchmarks extensively. European oil products are Argus-based. The world turns to Argus-published indexes for coal price settlements. The list of Argus benchmark pricing and indexation is long because markets understand this methodology and embrace it.

Argus assesses the market the way it trades – spot coke is bought and sold with specific sulphur content, at specific prices. HGI matters at the edges, and Argus provides pricing for 40 HGI and 70 HGI coke in mid- and high-sulphur markets. But the actual price is always assessed for the actual commodity traded.



Coke with 6.5pc sulphur at a specific delivery point like the USGC or delivery point like India has a specific value, and Argus market reporters use transactions, firm market data and other information to produce a price for that coke matching the consensus of market observations. Argus regards each reported deal with appropriate care – tenders, trades and transactions are not disregarded in our market reporting.

We believe you should never be surprised by a published price – the Argus-observed price should match your own price observations. The Argus process follows the same price observation process used on commodity desks around the world. More information is available from our methodology page at www.argusmedia.com.

Weekly publication, monthly indexes

Argus publishes weekly market reports with price assessments for commonly traded coke specifications. Every week, the global Argus petroleum coke team assesses specific prices for specific markets in the USGC, US west coast, Chinese, Indian and Turkish markets. The report also features calculated prices for delivered coke to key demand areas like northwest Europe or Brazil.

KEY PRICES

Petroleum coke spot market	HGI	Price	±	Four-week average ($/t)
Atlantic basin				
fob US Gulf coast 4.5% sulphur	40	46.00	-3.00	50.00
fob US Gulf coast 6.5% sulphur	40	27.50	-1.00	30.00
fob Venezuela 4.5% sulphur	70	49.00	-1.00	52.00
cfr Turkey 4.5% sulphur	70	62.00	-1.00	65.00
Coal, fob				
US Gulf coast 3.0% 11,300 Btu		39.53	0.00	39.88
Pacific basin				
fob US west coast <2.0% sulphur	45	72.00	+4.00	69.25
fob US west coast 3.0% sulphur	45	62.00	-1.00	62.75
fob US west coast 4.5% sulphur	45	55.00	-1.00	55.50
cfr China 6.5% sulphur	40	58.00	-4.00	61.00
cfr India 6.5% sulphur	40	53.50	-4.00	58.25

Petroleum coke calculated prices	HGI	Price	±	Four-week average ($/t)
Atlantic basin*				
ARA 4.5% sulphur	40	58.75	-3.50	63.38
ARA 6.5% sulphur	40	40.25	-1.50	43.38
Delivered Brazil 4.5% sulphur	40	57.50	-3.50	62.13
Delivered Brazil 6.5% sulphur	40	39.00	-1.50	42.13
Delivered Turkey 6.5% sulphur	40	40.50	-1.25	43.31
Pacific basin**				
Japan 3.0% sulphur	45	75.00	-1.00	75.75
Japan 4.5% sulphur	45	68.00	-1.00	68.50

**calculated by adding US Gulf spot market assessment to freight rate*
***calculated by adding US west coast spot market assessment to freight rate*

Argus monthly price indexes are assessed separately from these weekly prices – many dry bulk commodities, including many coke contracts, settle monthly and the monthly indexes are designed for this purpose. But weekly spot market observations inform those monthly price observations and ensure Argus market reporters and editors are in contact with the market throughout the month, capturing transactions and reporting spot activity every week.

The weekly spot prices also provide the basis for four-week average pricing. These four-week rolling average prices flatten price volatility and provide buyers and sellers with a rolling average price for these transactions.

This mix of price observation — weekly, rolling average and monthly — provides the most comprehensive set of market data anywhere.

A long history of doing it right

Even the competing index provider has begun to realize that the market is no longer satisfied with a price based on HGI and has begun providing a sulphur price within the last year or two.

This move additionally validates the way Argus has been assessing this market for almost 15 years.

Bottom line

The coke market is turning to price reporting based on sulphur rather than the outdated HGI index. By standardizing on Argus' specific rolling-average and monthly indexation, you protect yourself from the wild risk inherent in using an HGI-based index for a sulphur-based commodity and avoid opaque, subjective price indexation.

Argus assessments of spot market activity in petroleum coke reduce your risk and align your contract prices with spot prices, restoring sanity and convergence to a market long plagued by inconsistency and dismal correlation between actual spot prices and the index purporting to track them.

Argus monthly prices give you an index with more than a decade of history of sulphur-based assessments, while weekly prices provide a clear, updated view of each of the most important petroleum coke specifications.

Contact Information

Houston office:
2929 Allen Parkway
Houston, Texas 77019
Tel: +1 713 968 0000 Fax: +1 713 622 2991
Email: moreinfo@argusmedia.com

Editorial:
Lauren Masterson
Editor, Energy Argus Petroleum Coke
coke@argusmedia.com

Commercial:
sales@argusmedia.com