

Thermal Coal and Petcoke Marker Price Methodology and Specifications

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Introduction

This statement of methodology for IHS Markit's thermal coal and petcoke price assessments reflects fundamental principles that form the foundation for IHS Markit's coal price reporting service. This statement of methodology also includes detailed information on the formation of IHS Markit's price assessments and the specifications for the various products assessed.

As thermal coal and petcoke markets change, IHS Markit's methodology for assessing coal and petcoke prices will continue to evolve.

The IHS Markit coal price assessment services team is comprised of specialist reporters and analysts in London, Singapore, Brisbane, Sydney, Bogota, Kolkata, and the United States. The IHS Markit team undertakes price discovery of the physical thermal coal markets on a daily basis according to the specifications outlined in this statement of methodology.

For questions regarding Europe, the Middle East, Africa and the Americas coal assessments, please contact Andrew Thompson at Andrew.Thompson@ihsmarkit.com. For questions regarding Asia Pacific coal assessments, please contact Scott Dendy at Scott.Dendy@ihsmarkit.com. IHS Markit also has a compliance staff independent of the editorial group. For more information, please contact IHS Markit Regulatory Compliance Officer at Ryan.Keogh@ihsmarkit.com.

IHS Markit publications

IHS Markit publishes thermal coal and petcoke market price assessments, market commentary, news, and analysis on Connect and in the following publications.

The McCloskey Coal Report

Fortnightly news and analysis of the global seaborne coal industry.

The McCloskey Fax

Weekly global digest of market intelligence and price updates.

The McCloskey Newswire

Intra Day, real-time coal news and data direct to subscriber's screen or mobile devices.

China Coal Monthly

Monthly report focusing on China's vast coal market.*

China Coal Daily

Daily intelligence and price updates on the Chinese coal industry and markets.*

Inside Coal

Daily intelligence and price updates focusing on the global metallurgical coal markets.

Australian Coal Report

Weekly reports, including in-depth coverage of the Australian Thermal and Met coal industry.

Coalfax

Weekly digest of Australian/APAC coal intelligence and price updates.

Indian Coal Report

Intelligence on the Indian coal, power and steel markets focusing on government policy and regulation.

South African Coal Report

Weekly news and analysis covering the South African coal industry and domestic and international markets.

Coal & Energy Price Report

Daily news, analysis and commentary covering the US coal industry and market.

US Coal Review

Weekly summary and analysis of US coal news, data and prices.

* In partnership with Beijing-based Xinhua Infolink.

Methodology overview

IHS Markit produces physical price assessments, termed “markers,” for the major traded global coal hubs. All IHS Markit markers share the following features and standards:

Basis of IHS Markit coal methodology

IHS Markit assesses the global coal markets using a methodology that has been designed to reflect the way these markets trade. The principle purpose of the methodology is to produce price markers that are fair, consistent and reliable indicators of standard market values in the markets being assessed. As a result, the assessment locations, standard traded units, and other particulars of a marker are determined by industry conventions.

IHS Markit uses the trading period deemed by IHS Markit, in consultation with the industry, to be the most appropriate to capture market liquidity. In order to be included in the assessment process, deals must meet the minimum volume, delivery, timing and specification requirements as set forth in this *Thermal Coal and Petcoke Marker Price Methodology and Specifications* guide (the “Methodology”).

IHS Markit markers are informed by data received from active physical coal market participants including physical coal brokers. Market reporters engage with the industry by proactively polling participants for market data. IHS Markit will accept market data from all credible market sources, including electronic trading platforms. IHS Markit will accept market data by telephone, instant messenger, email or other means.

IHS Markit encourages parties that submit market data to submit all of their market data that falls within the stated methodological criteria for the relevant marker. IHS Markit encourages all sources of market data to submit transaction data from back office functions. IHS Markit will seek to ensure, so far as is able and is reasonable, that transaction data submitted are representative of all the submitter’s actual physical concluded fixed-priced transactions.

Throughout all markets, IHS Markit is constantly seeking to increase the number of companies willing to provide market data. Market reporters are

mentored and encouraged to expand their pool of contacts. The number of entities providing market data can vary significantly from day to day based on market conditions.

For certain key markers, if more than fifty percent (50%) of the total market data used to derive a marker is sourced from one entity, the markets editor will engage in an analysis of the market data with the applicable market reporter(s) to ensure that the quality and integrity of the assessment process has not been affected.

Judgment guidelines

As part of the price reporting process, market reporters are required to use their professional judgment, to ensure the reliability of the data and marker compilation process. IHS Markit has set forth guidelines throughout this Methodology to ensure that the use of judgment is consistent and fair. These guidelines can be found in the following sections of this Methodology:

- Anomalous or suspicious transactions
- Additional checks and analysis
- Comparative markets
- Transactions and survey weightings

IHS Markit has developed a Global Price Reporting Manual that details the process for compiling each specific marker. In addition, IHS Markit has developed a programme of training and oversight of market reporters that helps ensure uniformity in the application of judgment. The key elements of this programme include:

1. An initial course of training that explains and defines the parameters for the exercise of judgment
2. Suitably sourced staffing to ensure proper backup for sick days, vacations, etc.
3. Oversight of reporting teams by experienced market editors that are involved in daily mentoring and assisting in the application of judgment
4. A requirement that markets editors sign-off on all markers

Market data application and thresholds

The specifications defined in the methodology and data used to compile each marker is deemed to be the most representative for that market. IHS Markit will utilize various types of market data in compiling its markers, including:

- Transactions
- Bids and offers
- Other market information

Transaction information is the preferred source of data for the markers. However, depending on the liquidity of the markets being assessed, other information can be and is used, such as bids and offers and other market information. This can be in combination with transactions, or can substitute transactions, depending on the market liquidity and specific market circumstances.

Consequently, in most markets there will be a relatively higher rank given to transactions over bids and offers and other market information in the compilation process.

IHS Markit does not establish strict thresholds based on a count of completed transactions. IHS Markit does, however, use transaction levels to determine the weighting between weighted average of price transactions and other market information (see “Transactions and Survey Weightings” below). A strict adherence to a transaction-based threshold could lead to unreliable and non-representative markers because of the varying logistics found in coal markets, which determine the typical size of the transaction.

In many markets, IHS Markit has established minimum tonnage for transactions which will be accepted as market data. For those markers that are not used to settle derivatives, if the submitted data falls below the stated threshold for any reason, IHS Markit will follow the procedures outlined elsewhere in this document regarding the exercise of judgment in the price assessment process.

Verification of transaction data

Market reporters carefully evaluate all data gathered before it is used in the price compilation process.

These data inputs include transactions, bids, offers, volumes, counterparties, specifications and any other information that contributes materially to the determination of a marker. Specific to transactions and bids and offers, market reporters seek to verify and validate the price, volume, specifications, and location basis, and with regard just to transactions, the counterparties. Market reporters examine all the reported transactions to avoid duplication.

In order to promote transparency in the coal markets, IHS Markit seeks to inform the market of any deals it identifies and significant movements of bids and offers through the *NewsWire* service (daily), the *McCloskey Fax* (weekly) and through the other relevant IHS Markit publications. For some assessments, full details of the transactions verified, including price, basis, delivery/loading period and volume information, are published and are accessible to subscribers. This allows subscribers to cross check and verify the deals against the prices.

Scrutiny of transactions

IHS Markit has created guidelines that control the exercise of judgment by its market reporters. Market reporters are trained to identify anomalous or suspicious transactional data that merit further investigation to verify if they are bona fide data for inclusion in the index compilation process. If a transaction has been identified by a market reporter as anomalous or suspicious, it will be escalated to the markets editor. Further checks and analysis will be conducted by the markets editor when an anomalous or suspicious transaction is identified for further examination.

Anomalous or suspicious market data

The following types of market data have been identified by IHS Markit as potentially anomalous or suspicious:

- Transactions not transacted at arm’s length, including deals between related parties or affiliates
- Transaction prices that fall outside of the generally observed bids and offers that operated throughout the trading period
- In the absence of observed bids and offers, transaction prices that deviate significantly from transactions seen for that trading period

- Transactions that are suspected to be a leg of another transaction or in some way contingent on an unknown transaction (excluding EFP¹ and sleeve trades²)
- Transactions, bids and offers that deviate from the typical transaction volumes seen in that market
- Any other transaction details that appear to stray from the usual trading behaviour seen in that market, including, but not limited to,
 - repeated trading activity in periods or pools of potentially low liquidity, such as the margins of the defined trading window (such as very early or very late deals),
 - counterparties not typically seen,
 - divergent specifications and
 - unusual delivery locations.
 - or specific delivery location in a port range that may have time specific issues affecting price
- This will include transactions that are identified by other market participants as being, for any reason, potentially anomalous
- Discrepancy in transaction details reported by counterparties

Additional checks and analysis

The markets editor and market reporter(s) will undertake the following transactional and source analysis when a potentially anomalous or suspicious transaction is identified for further examination.

They will assess the following transaction-based factors:

- The nature of the linkage of the perceived anomalous or suspicious transaction to other possible transactions

1. An EFP deal is initially executed at a fixed price and is then broken down into two parts: one part being a physical deal done on an index basis, while a paper position of equivalent size is taken in the same direction as the physical deal. This is done in a way that adds up to the same as the strike price and all elements of the EFP deal are executed at the same time.

2. Sleeve deals are deals executed using a third-party credit sleeve because the buyer and seller are unable to transact directly because of credit issues. The third-party credit sleeve is not exploiting an arbitrage opportunity.

- The differences between counterparties on transactional details
- The impact of other factors on price and/or volume, including scheduling and logistic issues, demurrage issues and credit issues

The markets editor will also assess the following source-based factors:

- Whether the explanation provided by the source for the outlying nature of the transaction is plausible
- The credibility of the sources³
- Whether the timing of the provision of information impacts the verification and validation process

Should this process determine that a transaction be excluded from the price assessment process, the markets editor will approve the exclusion and document the rationale. For markets used to settle derivatives, IHS Markit has established internal procedures that involve escalating review within IHS Markit management and, if necessary, notification and escalation of inquiry within the source's company.

Comparative markets

There exist tight price correlations between certain coal markets and the premiums and discounts between these markets, which are constantly assessed and compared by market participants. By polling and entering into dialogue with the market, market reporters are able to quantify these relative values. Accordingly, in certain assessments when no relevant or insufficient market data exists, market reporters will make an assessment of market value using some or all of the following comparative metrics.

- Comparison to another market hub for the same quality of coal
- Comparison to a more actively traded, but slightly different specification or quality in the same market hub
- Other metrics, such as demand and supply data

3. Sources will be deemed more credible if they (i) adhere to the reporting standards outlined in this Methodology; (ii) quickly respond to queries from market reporters; and (iii) have staff designated to respond to such queries.

Corrections to markers

If warranted by the circumstances, IHS Markit may publish corrections to markers after the publication date. IHS Markit will typically correct material errors that arise from the improper entry of information, the erroneous calculation of market data, misreported information or the incorrect application of the stated methodology. However, IHS Markit will not retroactively assess markets based solely on new information learned after the publication date of the relevant marker.

Compliance and ethics

IHS Markit has implemented extensive compliance policies and procedures in accordance with the best practices of the price reporting industry. In addition, IHS Markit has implemented a comprehensive ethics policy that applies to all the IHS Markit Coal Price Reporting staff. The IHS Markit Code of Ethics for Coal Price Reporting (a copy of which can be found at www.ihsmarkit.com) is an expression of IHS Markit's intent to set out ideals for the ethical conduct of Coal Price Reporting personnel in the performance of their coal price assessment activities. The IHS Markit Code of Ethics for Coal Price Reporting includes mandatory disclosures regarding outside business activities as well as restrictions on trading in any energy commodity or energy related stocks, restrictions on trading on the basis of nonpublic information. It also sets forth guidelines for accepting and providing gifts, confidentiality and the training of Coal Price Reporting personnel. The IHS Markit compliance programme contains specific policies regarding the central archiving of electronic communications and the maintenance and archiving of information used during the course of the price assessment process.

Review of methodology

In order to ensure that they are representative of the market being assessed, IHS Markit conducts reviews of its methodologies on both an internal and external basis. Internally, IHS Markit methodologies are under continuous and on-going review. In addition, IHS Markit conducts a formal review of all of its methodologies and attendant documents on at least an annual basis. Externally, IHS Markit is in regular contact with market participants as such market participants are not only well-situated to know the particulars of the market, but have a vested interest in the implementation of accurate and relevant methodologies. When conducting

its reviews, IHS Markit will consider a myriad of factors, including, but not limited to, activity in the market, visibility of market data and current and anticipated industry usage of the marker.

If the review process recommends a material change to, or termination of, an existing methodology or the creation of a new methodology, the markets editor will submit a proposal to IHS Markit management for review and approval. Should material changes to, or terminations of, existing markers be approved, then IHS Markit will commence with formal procedures for consultation with market participants.

Changes to methodology

If either an internal or external review of a methodology results in a potential material change to such methodology, IHS Markit will begin formal procedures for external consultation. Materiality is subject to professional judgment and takes into account the impact of the proposed change on the decision making of stakeholders. External consultation will commence with an announcement of the proposed change published in the relevant IHS Markit coal publication. This announcement will include:

- Details on the proposed change
- The basis for such a proposed change
- The method for providing comments to IHS Markit regarding the proposed change (including the deadline for such comments)
- For prices that are referenced by the terms of a derivative contract, a notice that all formal comments will be published following the given consultation period unless a submitter requests confidentiality

IHS Markit will balance the needs of stakeholders with the orderly functioning of the markets. IHS Markit cannot, however, guarantee unanimous acceptance and will act with the primary purpose of ensuring the continued integrity of its markers and the best interests of the market. Accordingly, IHS Markit will provide sufficient opportunity for stakeholders to assess and comment on proposed changes, but will adhere to a strict timeline so that a situation is not created (i) where the market stops functioning; (ii) which could result in erroneous prices being published;

and/or (iii) where market participants are put at undue risk. IHS Markit will engage with market participants throughout this process in order to gain acceptance of proposed changes to the methodology.

Following the consultation period, IHS Markit will decide on the final changes to the methodology. This will be followed by an announcement of the decision, which will be published in the relevant IHS Markit coal publications and include a date for implementation.

The market

IHS Markit markers assess fixed price physical business for delivery or loading largely over a prompt two month period with the exceptions being the weekly internal US steam coal markers (, the monthly Asian Steam Coal marker and the monthly Japanese Steam Coal marker, which are three month assessments. To merit inclusion in the IHS Markit assessment process, transactions and survey responses must meet standard specification guidelines. All international traded prices are assessed in US dollars per metric tonne⁴ basis against a headline calorific value with the analysis basis that relates to the calorific value. Many of the markers will be identified by the calorific value of the coal being assessed and will be given an abbreviated description. For example the marker assessing the 4,200 kc/kg GAR Indonesian FOB market is named the Indonesian (4,200kc GAR) FOB marker.

Deals done on a 'Cost Insurance Freight (CIF)' basis and those done on a 'Delivered Ex-Ship (DES)' basis are treated as interchangeable and the same.

Transactional data

Daily markers

The prices of physical deals for inclusion in the daily IHS Markit Steam Coal markers are averaged over the course of the day on a tonnage weighted basis. Trades and bids and offers accepted are those that represent the most economic standard tonne in the market being assessed. For markers assessing delivered markets, the origin(s) of the most economic tonne can change depending on market conditions.

4. US internal business will be assessed in short tons (st).

In the formulation of the daily markers, trades take precedence, but in the absence of any trades, IHS Markit will revert to using bid/offer mid-points to evaluate the months within the window, as long as the best bid and offer are not greater than \$1 apart in the same month, and average these midpoints.

The 'evidential' bid/offer spread shall be what IHS Markit judges to be the best standard bids and offers in each month that are \$1 or less apart.

Weekly markers

IHS Markit assesses certain coal markers on a weekly basis. The prices for physical deals for the IHS Markit weekly markers are averaged over the week of investigation on a tonnage weighted basis. Trades and bids and offers accepted are those that represent the most economic standard tonne in the market being assessed. Where available, bids and offers are tracked over the week and the best bids and offers for each active trading month over the week are arithmetically averaged.

Market survey

Daily markers

In addition to tracking physical business throughout the day, IHS Markit surveys market participants at the end of each trading day on where they see market value based on trading activity in the two month window that day.

As part of this survey process, for certain markets, IHS Markit emails market participants listing confirmed trades and the standard best bids and offers seen in the market together with the other information in its Daily Coal Assessment. For certain markers, IHS Markit will generate its 'view' of the market based on the information in the two month window. This is for guidance purposes only and is not used in the compilation of the markers. The view is constructed by valuing each month using trades and, in the absence of trades, mid-points of standard bids/offers with a spread of \$1 or less and then averaging the two months. In the absence of bid/offers \$1 or less apart, IHS Markit will use judgment to assess that month.

The results of the market evaluation survey are then topped and tailed discarding the highest and lowest prices. An arithmetic mean is then applied to the results.

Every effort will be made to identify trades and relevant bids and offers before IHS Markit polls the market, to give participants the most accurate reflection of the market. However, in the event that a new trade comes to light during the polling process and before trade activity deadline, and that trade can be verified and/or validated, IHS Markit will email an update to the Daily Coal Assessment with solely the new trade information and a modified “view” if the new trade information revises the original view.

IHS Markit will not update the Daily Coal Assessment with new and valid bid and offer information that comes to light after the Daily Coal Assessment has been sent. The new and valid bid and offer information will be used in the compilation of the markers.

Weekly markers

In addition to tracking physical business, IHS Markit also undertakes a weekly survey of the market. IHS Markit enters into a dialogue with most of the survey participants using the information IHS Markit has built up in terms of deals done and bid and offer values over the week. Market participants are asked where they see the market in terms of deals done and bid/offer levels through the week and where they would assess the market. The results of the market evaluation survey are then topped and tailed. An arithmetic mean is then applied to the results. For certain markers, IHS Markit will email market participants a list of all relevant and valid trades and bid and offers captured in the week to help inform the market participants’ survey input. Most of this market activity will have been reported in the end of day market reports that pertain to these markers over the course of the week

Transactions and survey weightings

The use of the survey in determining the daily and weekly markers will vary depending on the level of liquidity and the spread of trades and evidential bids and offers across the two active marker months.

Under normal circumstances with the daily markers, if there is at least one trade in each of the two active window months, then the volume weighted average of the trades will comprise 75% of the marker and the survey 25%. If deals are transacted in only one month of the window,

then, typically, the volume weighted average and the survey will comprise 50% each of the marker compilation. If there are no representative trades in the two month window, but there are ‘evidential’ bid/offer midpoints with a spread of \$1 or less, then the survey will typically comprise 75% of the marker and the average of the evidential bid/offer midpoints 25%. When there are no trades or ‘evidential’ bid/offer midpoint, the survey result will be the sole determinant of the marker.

For weekly indexes, the relative value ascribed to trades, bids and offers (when present) and survey depends on levels of activity across the week regarding the transactions. Judgment will be used to assign weightings to trades, bids/offers and survey depending on how representative each is for any given week.

Marker timing

Daily markers

To be included in the marker, a trade and bids and offers must be executed between 08:00 and 17:00 and verified and/or validated by 17:30 UK time each day.

The Daily Coal Assessment will be emailed at approximately 16:00 UK time. Market survey participants are asked to reply with their daily market value assessments by 17:30 UK time. Any replies that are not received before 17:30 UK time will normally be excluded in the survey average used in the marker compilation.

Weekly markers

The cut off point for trades and survey numbers being accepted for inclusion in the formation of the Asian markers is 17:30, Singapore time, on Friday. The cut off point for trades and survey numbers being accepted for inclusion in the formation of the Atlantic/European markers is 17:00 UK time on Friday. Deals done after this time will not be included in the weekly markers compilation.

On days before major holidays the index trade and survey deadlines may be brought forward in line with market participants working schedules. These days are usually over the Christmas/New Year period. Market participants will be informed of any such changes to assessment times.

Monthly rollovers

The active window starts one month ahead of the current month and rolls over after the close of business on the last working Friday of the month. Where there are cases when that Friday is a UK public holiday, the active window rolls over on the previous working day.

For example, this means that the 2nd November 2015 was the first assessment day for the active window which was made up of December, 2015 and January, 2016.

Weekly and monthly averages

The daily markers are compiled every working day, except in the case of a UK bank holiday. The weekly average of the daily markers are compiled on a Friday or, in the event of a public holiday being on a Friday, the weekly average of the daily markers are published on the preceding working day.

The monthly average of the weekly markers are compiled from markers published on each and every Friday within the calendar month or, in the event of a public holiday on the Friday, the weekly markers published on the preceding working day.

Summary of IHS Markit market specifications

	Frequency	Basis	Contract	Basis c.v. (kc/kg)	Min c.v. (kc/kg)	Max sulphur	Max ash	Compilation region	Minimum cargo size	Notes
Australia										
NEX	Weekly	GAR	FOB	6,322		1%		Asia	25,000 t	Newcastle export Index (NEX)
Newcastle *	Weekly	NAR	FOB	6,000	5,700	1%		Asia	50,000 t	
Australian (5,500) *	Weekly	NAR	FOB	5,500	5,300	1%	24%	Asia	50,000 t	Basis port Newcastle.
China										
Qinhuangdao (export)	Weekly	NAR	FOB	5,800	5,700	1%		Asia	25,000 t	Includes export tax
Qinhuangdao (5,000)	Weekly	NAR	FOB	5,000	4,600	1%		Asia	20,000 t	Includes Chinese taxes
Qinhuangdao (5,500)	Weekly	NAR	FOB	5,500	5,300	1%		Asia	20,000 t	Includes Chinese taxes
Qinhuangdao (5,800)	Weekly	NAR	FOB	6,000	5,700	1%		Asia	20,000 t	Includes Chinese taxes
South China (4,700)	Weekly	NAR	CFR	4,700	4,500	1%		Asia	50,000 t	Basis port Guangzhou without Chinese Taxes
South China (5,500) *	Weekly	NAR	CFR	5,500	5,300	1%		Asia	50,000 t	Basis port Guangzhou without Chinese Taxes
South China (6,000)	Weekly	NAR	CFR	6,000	5,700	1%		Asia	50,000 t	Basis port Guangzhou without Chinese Taxes
Colombia										
Colombian	Weekly	NAR	FOB	6,000	5,750	1%		Europe/US	50,000 t	Basis port Puerto Bolivar
Europe										
NW Europe*	Daily	NAR	CIF	6,000	5850	1%		Europe	50,000 t	
NW Europe (5,700kc NAR min)	Weekly	NAR	CIF	6,000	5,700	1%	17%	Europe	25,000 t	17% max moisture, 21% to 37% vols
ARA barge	Weekly	NAR	FOB	6,000	5,850	1%		Europe	1,000 t	
India										
India east coast (4,200)	Weekly	GAR	CFR	4,200	4,000	1%		Asia	50,000 t	Basis Krishnapatnam
India east coast (5,000)	Weekly	GAR	CFR	5,000	4,700	1%		Asia	50,000 t	Basis Krishnapatnam
India east coast (5,500) *	Weekly	NAR	CFR	5,500	5,300	1%		Asia	50,000 t	Basis Krishnapatnam
India west coast (4,200)	Weekly	GAR	CFR	4,200	4,000	1%		Asia	50,000 t	Basis Mundra
India west coast (5,000)	Weekly	GAR	CFR	5,000	4,700	1%		Asia	50,000 t	Basis Mundra
India west coast (5,500)	Weekly	NAR	CFR	5,500	5,300	1%		Asia	50,000 t	Basis Mundra
Indonesia										
Indonesian (3,800)	Weekly	GAR	FOB	3,800		0.60%		Asia	50,000 t	Gearless vessels
Indonesian (4,200)	Weekly	GAR	FOB	4,200	4,000	0.60%		Asia	50,000 t	Gearless vessels. Typically converts to 3,800 NAR
Indonesian (4,700)	Weekly	NAR	FOB	4,700	4,500	1%		Asia	50,000 t	Max 30% TM, Gearless
Indonesian (5,500)	Weekly	NAR	FOB	5,500	5,300	1%		Asia	50,000 t	Gearless
Indonesian (6,000)	Weekly	NAR	FOB	6,000	5,700	1%		Asia	50,000 t	Gearless
Russia										
Russia west (Baltic)	Weekly	NAR	FOB	6,000		1%		Europe	40,000 t	
Russia east (Vostochny)	Weekly	NAR	FOB	6,000	5,850	1%		Asia	50,000 t	
South Africa										
Richards Bay *	Daily	NAR	FOB	6,000	5,850	1%		Europe	30,000 t	
Richards Bay (5,700kc NAR min)	Weekly	NAR	FOB	6,000	5,700	1%	17%	Europe	30,000 t	13% max moisture, 21% min vols
South African (5,500) *	Weekly	NAR	FOB	5,500	5,300	1%	24%	Asia	50,000 t	
South African (4,800)	Weekly	NAR	FOB	4,800	4,600	1%	30%	Asia	50,000 t	
US - export										
US east coast	Weekly	NAR	FOB	6,000	5,850	1%		Europe/US	30,000 t	Basis port Hampton Roads
US Gulf high-sulphur	Weekly	NAR	FOB	6,000	5,850	3%		Europe/US	30,000 t	Basis port New Orleans
USGVC Petcoke										
Mid-sulphur	Weekly	NAR	FOB	7,500		4.5-5.0%		Europe/US		Typical HGI 45-50
High-sulphur	Weekly	NAR	FOB	7,500		5.5-7.0%		Europe/US		Typical HGI 45-50

Summary of IHS Markit market specifications (cont.)

	Frequency	Basis	Contract	Basis c.v. Btu/lb	Min c.v. (Btu/lb)	Max sulphur	Max ash	Compilation region	Minimum cargo size	Notes
US - internal										
NAPP Rail	Weekly	GAR	FOB	12,900	12,500	4.0#So2		US	12,000 st	cv typically converts to 6900 kc/kg sulphur typically converts to 3% max
NAPP Barge	Weekly	GAR	FOB	12,500	12,200	6.0#So2		US	2,500 st	Upper Ohio River FOB Barge MP 0.5.
ILB Rail	Weekly	GAR	FOB	11,500	11,200	3%		US	12,000 st	
ILB Barge	Weekly	GAR	FOB	11,500	11,200	3%		US	2,500 st	Lower Ohio River FOB Barge MP 828.

Abbreviations: ARA = Antwerp/Rotterdam/Amsterdam, CFR = Cost and freight, CIF = Cost, insurance and freight, C.V. = Calorific Value, DES = Delivered Ex-Ship, FOB = Free on board, GAR = Gross as received, HGI = Hardgrove Index, NAR = Net as received, t = tonne, st = short ton, NW=North West

* part of an API

Source: IHS Markit

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API indices

A number of IHS Markit markers are components of the API indices that are published in the *Argus/McCloskey Coal Price Index Report*. These are:

- IHS McCloskey Northwest Europe Steam Coal marker (API 2)
- IHS South African (5,500 kc NAR) FOB marker (API 3)
- IHS McCloskey Richards Bay FOB marker (API 4)
- IHS Australia (5,500 kc NAR) FOB marker (API 5)
- IHS Newcastle FOB marker (API 6)
- IHS McCloskey/Xinhua Infolink South China CFR (5,500 kc NAR) marker (API 8)
- IHS Colombia FOB marker (API 10)
- IHS India east coast CFR (5,500 kc NAR) marker (API 12)

Daily steam coal markers

The IHS McCloskey Northwest Europe Steam Coal marker and IHS McCloskey Richards Bay FOB marker are assessed and published daily on IHS Connect. These markers are also published in the *IHS McCloskey Fax* and the *IHS McCloskey Coal Report* and are averages of the week's daily markers.

IHS McCloskey Northwest Europe Steam Coal marker

The IHS McCloskey Northwest Europe Steam Coal marker is an assessment based on the price of coal delivered CIF into the ARA hub. The IHS McCloskey Northwest Europe Steam Coal marker reflects the price of the most economic delivered tonne from any origin as long as the material's specification reaches the general European standard, established by IHS Markit in 1991, of under 1% sulphur with prices c.v. adjusted to a 6,000 kc/kg NAR basis and not less than 5,850 kc/kg NAR. The minimum cargo size accepted for inclusion in the marker assessment is 50,000 t.

IHS McCloskey Richards Bay FOB marker

The IHS McCloskey Richards Bay FOB marker is an assessment of the price of coal loaded at the Richards

Bay Coal Terminal in South Africa. The McCloskey Richards Bay FOB marker is based on a 1% max sulphur 'traditional' South African export quality steam/thermal coal with prices c.v. adjusted to a 6,000 kc/kg NAR basis and not less than 5,850 kc/kg NAR. The minimum cargo size accepted for inclusion in the marker assessment is 30,000 t.

Weekly steam coal markers

The delivered markers

IHS McCloskey Northwest Europe Steam Coal (5,700kc min) marker

The Northwest Europe Steam Coal (5,700 kc NAR min) marker assesses the price of coal delivered into the ARA hub. The marker reflects the price of the most economic delivered tonne from any origin as long as the material complies with the following specification:

- 5,700 kc/kg NAR minimum calorific value
- 1% max sulphur
- 17% max ash
- 17% max total moisture
- 21% to 37% volatile matter

The minimum cargo size accepted for inclusion in the marker assessment is 25,000 t and 25,000 t increments thereafter. The price basis is 6,000 kc/kg NAR.

ARA FOB barge marker

The ARA FOB barge marker is an assessment of the price of steam coal delivered FOB onto barges at the ARA ports. It reflects the most economic standard tonne from any origin of standard bituminous material as long as the material's specification reaches the general European standard, established by IHS Markit in 1991, less than 1% sulphur with prices c.v. adjusted to a 6,000 kc/kg NAR basis and not less than 5,850 kc/kg NAR. The minimum traded volume is one barge of 1,000 t.

IHS McCloskey/Xinhua Infolink South China CFR (6,000kc NAR) marker*

The South China CFR (6,000 kc NAR) marker assesses the price for imported coal into South China region, basis

Guangzhou, and under 1% sulphur. The minimum cargo size is 50,000 t. The coal being assessed is typically 5,800 kc/kg NAR material which is, published as 6,000 kc/kg NAR to normalise to other international benchmarks.

IHS McCloskey/Xinhua Infolink South China CFR (5,500 kc NAR) marker*

The South China CFR (5,500 kc NAR) marker assesses the price for imported coal into South China, basis Guangzhou, and under 1% sulphur. The minimum cargo size is 50,000 t.

IHS McCloskey/Xinhua Infolink South China CFR (4,700 kc NAR) marker*

The South China CFR (4,700 kc NAR) marker assesses the price for imported sub-bituminous coal into South China, basis Guangzhou, and under 1% sulphur. The minimum cargo size is 50,000 t.

India east coast CFR (4,200 kc GAR) marker

The India east coast CFR (4,200 kc GAR) marker assesses the price for imported sub-bituminous coal into the east coast of India, basis Krishnapatnam, under 0.6% sulphur. The assessment is for geared and grabbed vessels of 50,000 t or above.

India east coast CFR (5,000 kc GAR) marker

The India east coast CFR (5,000 kc GAR) marker assesses the price for imported sub-bituminous coal into the east coast of India, basis Krishnapatnam, under 1% sulphur. The assessment is for gearless vessels of 50,000 t and above.

India East Coast CFR (5,500 kc NAR) marker

The India east coast CFR (5,500 kc NAR) marker assesses the price for imported sub-bituminous coal into the east coast of India, basis Krishnapatnam, under 1% sulphur. The assessment is for gearless vessels of 50,000 t and above.

India west coast markers

The India west coast markers are currently calculated using the c.v. equivalent east coast markers and adjusting the final number using a freight differential based on the most economic route from the most competitive origin. Assessments are basis Mundra.

* In the absence of clear market data for CFR South China (i.e., China stops importing), domestic coal prices plus domestic freight costs will be used to maintain a delivered South China value.

The FOB markers

Newcastle FOB marker

The Newcastle FOB marker is an assessment of the price of coal delivered into vessels at the Capesize Newcastle port in Australia over a week. The price is based on a standard Newcastle export quality steam/thermal coal, c.v. adjusted to a 6,000 kc/kg NAR basis. The minimum cargo size accepted for inclusion in the marker assessment is 50,000 t.

NEX

The Newcastle Export (NEX) marker is a long-standing FOB assessment of the price of coal loaded from Newcastle port in Australia. The price is based on a traditional Newcastle export quality thermal coal, with c.v. adjusted to a 6,322 kc/kg GAR basis.

IHS McCloskey Australian (5,500 kc NAR) FOB marker

The Australian 5,500 kc NAR FOB marker assesses the price of typical high-ash coals exported out of Australia c.v. adjusted to a 5,500 kc/kg NAR basis. The material is 24% max ash, 1% max sulphur, FOB basis Newcastle port. The minimum cargo size accepted for inclusion in the marker assessment is 50,000 t.

Indonesian (6,000 kc NAR) FOB marker

Assesses coals exported out of East and South Kalimantan in gearless vessels, c.v. adjusted to 6,000 kc/kg NAR and with load rates of 20,000 t/day.

Indonesian (5,500 kc NAR) FOB marker

Assesses coals exported out of East and South Kalimantan c.v. adjusted to 5,500 kc/kg NAR and with load rates of 20,000 t/day.

IHS McCloskey Indonesian sub-bituminous FOB marker

Assesses sub-bituminous coals with a minimum c.v. of 4,500 kc/kg NAR exported out of East and South Kalimantan. It is c.v. adjusted to 4,700 kc/kg NAR and with load rates of 15,000 t/day. The loading points are constrained to those that can load Panamax vessels or larger. However, the minimum cargo size is 50,000 t.

Indonesian (4,200 kc GAR) FOB marker

Assesses the export price of sub-bituminous coals shipped out of East and South Kalimantan in geared vessels and c.v. adjusted to 4,200 kc/kg GAR. The Indonesian 4,200 kc/kg GAR price basis typically converts to 3,800 kc/kg NAR.

Indonesian (3,800 kc GAR) FOB marker

Assesses the export price of sub-bituminous coals shipped out of East and South Kalimantan in geared vessels and c.v. adjusted to 3,800 kc/kg GAR.

Qinhuangdao (Export) FOB marker

The Qinhuangdao FOB (Export) marker is an assessment of the export price of coal delivered into vessels at the Capesize port of Qinhuangdao in Northern China. All trades are c.v. adjusted to a 5,800 kc/kg NAR basis and include export duty.

IHS McCloskey/Xinhua Infolink QHD (6,000 kc NAR) FOB marker

The QHD FOB (6,000 kc NAR) marker assess the price of Chinese coal that is being shipped into the domestic Chinese markets at the port of Qinhuangdao. The coal being assessed is typically 5,800 kc/kg NAR material which is, published as 6,000 kc/kg NAR to normalise to other international benchmarks.

IHS McCloskey/Xinhua Infolink South China (5,500 kc NAR) FOB marker

The QHD FOB (5,500 kc NAR) marker assess the price of Chinese coal that is being shipped into the domestic Chinese markets at the port of Qinhuangdao.

IHS McCloskey/Xinhua Infolink South China (4,900 kc NAR) FOB marker

The QHD FOB (4,900 kc NAR) marker assess the price of Chinese coal that is being shipped into the domestic Chinese markets at the port of Qinhuangdao. The coal being assessed is typically a 5,000 kc/kg NAR material, which is published as a 4,900 kc/kg NAR material in line with the Indonesian sub-bituminous FOB marker.

Colombia FOB marker

The Colombia FOB marker assesses Colombian FOB prices using the Capesize Bolivar port as the exit point. Other Colombian trades from non-Bolivar Capesize ports are included in the assessment and evaluated to a Bolivar basis. All prices are c.v. adjusted to a 6,000 kc/kg NAR basis. The material is 1% or less sulphur, min c.v. of 5,750 kc/kg NAR and the min cargo size for index-setting trades is 50,000 t.

Russia west (Baltic) FOB marker

The Russia west (Baltic) FOB marker is an assessment of Russian FOB prices, c.v. adjusted to a 6,000 kc/kg

NAR basis, delivered into vessels at a range of Russian and non-Russian ports in the Baltic in vessels ranging from Handymax to Panamax size. A range of ports is included as physical factors such as winter ice in the Baltic may close some ports. Also other factors such as varying rail freight rates, port charges and cross-border tariffs may make some terminals in the Baltic less economic than others from time to time.

Russia east (Vostochny) FOB marker

The Russia east (Vostochny) FOB marker is an assessment of Russian FOB prices for coal delivered into vessels at the Capesize Vostochny port in far east Russia. In determining values, deals done at other far east Russian ports are included in the assessment.

US east coast FOB marker

The US east coast FOB marker assesses the price of typical coals exported out of the US east coast, c.v. adjusted to a 6,000 kc/kg NAR basis and with a min. c.v. of 5,850 kc/kg NAR, max 1% sulphur, FOB basis Hampton Roads.

US Gulf FOB marker

The US Gulf FOB marker assesses the price of typical coals exported out of the US Gulf, c.v. adjusted to a 6,000 kc/kg NAR basis. The material has a min. c.v. of 5,850 kc NAR, max 3% sulphur, FOB basis New Orleans.

NAPP FOB Rail marker

The NAPP Rail FOB marker assesses the price of typical coal from the Pittsburgh 8 seam, c.v. adjusted to a 12,900 btu/lb GAR basis. The material has a min. c.v. of 12,500 btu/lb GAR, max 4.0 #SO₂/mmBtu, and is loaded FOB Rail Car. The assessment covers fixed price physical business for loading over a three month period.

The NAPP 12,900 btu/lb GAR price basis typically converts to 6,900 kc/kg NAR, with the max 4.0 #SO₂/mmBtu typically converting to 3% max sulphur.

NAPP FOB Barge marker

The NAPP Barge FOB marker assesses the price of typical coal from the Pittsburgh 8 seam, adjusted to a 12,500Btu/lb GAR basis. The material has a min. c.v. of 12,200 btu/lb GAR, max 6.0 #SO₂/mmBtu, and is loaded in the Upper Ohio River FOB Barge MP 0.5. The assessment covers fixed price physical business for loading over a three month period.

ILB FOB Rail marker

The ILB Rail FOB marker assesses the price of typical coal from the Illinois Basin, c.v. adjusted to an 11,500Btu/lb GAR basis. The material has a min. c.v. of 11,200Btu/lb GAR, max 3% sulphur, and is loaded FOB Rail Car. The assessment covers fixed price physical business for loading over a three month period.

ILB FOB Barge marker

The ILB Barge FOB marker assesses the price of typical coal from the Illinois Basin, c.v. adjusted to 11,500 btu/lb GAR basis. The material has a min. c.v. of 11,200 btu/lb GAR, max 3% Sulphur, and is loaded FOB Barge Lower Ohio River MP 828. The assessment covers fixed price physical business for loading over a three month period.

IHS McCloskey Richards Bay (5,700kc NAR min) FOB marker

The Richards Bay (5,700 kc NAR min) FOB marker assesses the price of coal out of Richards Bay, South Africa, with the following specifications:

- 5,700 kc/kg NAR minimum calorific value
- 1% max sulphur
- 17% max ash
- 13% max total moisture
- 21% minimum volatile matter

The minimum cargo size accepted for inclusion in the marker assessment is 30,000 t. The price basis is 6,000 kc/kg NAR. The marker will be collated by both the Singapore and London offices.

South African (5,500 kc NAR) FOB marker

The South African 5,500 kc NAR FOB marker assesses the price of typical 5,500 kc/kg NAR material out of South Africa, basis Richards Bay. The price is basis 5,500 kc/kg NAR with the following specifications: a

- 5,300 kc/kg NAR minimum calorific value
- 24% max ash
- 1% max sulphur.

Cargoes of 50,000 t and above are included. The price is presented as an absolute value.

South African (4,800 kc NAR) FOB marker

The South African (4,800 kc NAR) FOB marker assesses the price of typical 4,800 kc/kg NAR material out of South Africa, basis Richards Bay, with the following specifications:

- 4,600 kc/kg NAR minimum calorific value
- 1% max sulphur
- 30% max ash

The minimum cargo size accepted for inclusion in the marker assessment is 50,000 t. The price is basis 4,800 kc/kg NAR.

USGVC mid-sulphur petcoke FOB marker*

The USGVC mid-sulphur petcoke FOB marker is a weekly assessment of US Gulf/Caribbean/Venezuela FOB material with 4.0-5.5% sulphur content delivered in Handysize vessels or larger. Deals are assessed on a 7,500 kc/kg NAR basis. Typical HGI is 45-50.

USGVC high-sulphur petcoke FOB marker*

The USGVC high-sulphur petcoke FOB marker is a weekly assessment of US Gulf/Caribbean/Venezuela FOB material with 5.5-7.0% sulphur content delivered in Handysize vessels or larger. Deals are assessed on a 7,500 kc/kg NAR basis. Typical HGI is 45-50.

Monthly steam coal markers**Japan steam coal marker**

The Japan steam coal marker takes into account current delivered prices of Australian, Chinese and Indonesian material into Japan, all prices are adjusted to a 6,080 kc NAR basis. Each price component is assessed in line with the general price assessment methodology, however, individual prices are given a weighting based on the proportion of Japan's steam coal imports that each origin has supplied over a rolling three month average. The average is based on Japanese customs import statistics.

* In the absence of clear market data for CFR South China (i.e., China stops importing), domestic coal prices plus domestic freight costs will be used to maintain a delivered South China value.

Asian Steam Coal marker

The Asian Steam Coal marker, which was launched in 1998, represents the movement in delivered Asian prices by equally collating prices seen into South Korea, Taiwan and Japan (one-third each). Unlike the other markers this is not done through the general

price assessment methodology, but uses the most recent tender results at Taiwan's Taipower (on an evaluated basis) and the South Korean generating companies. In addition, the Japanese element is derived from the Japan steam coal marker. Prices are reported on a 6,080 kc/kg NAR basis.

Contacts

John Howland

Managing director, Coal
john.howland@ihsmarkit.com

Andrew Thompson

Manager, coal indexes
andrew.thompson@ihsmarkit.com

Ryan Keogh

Regulatory Compliance officer
ryan.keogh@ihsmarkit.com

IHS Markit Customer Care

CustomerCare@ihsmarkit.com
Americas: +1 800 IHS CARE (+1 800 447 2273)
Europe, Middle East, and Africa: +44 (0) 1344 328 300
Asia and the Pacific Rim: +604 291 3600

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